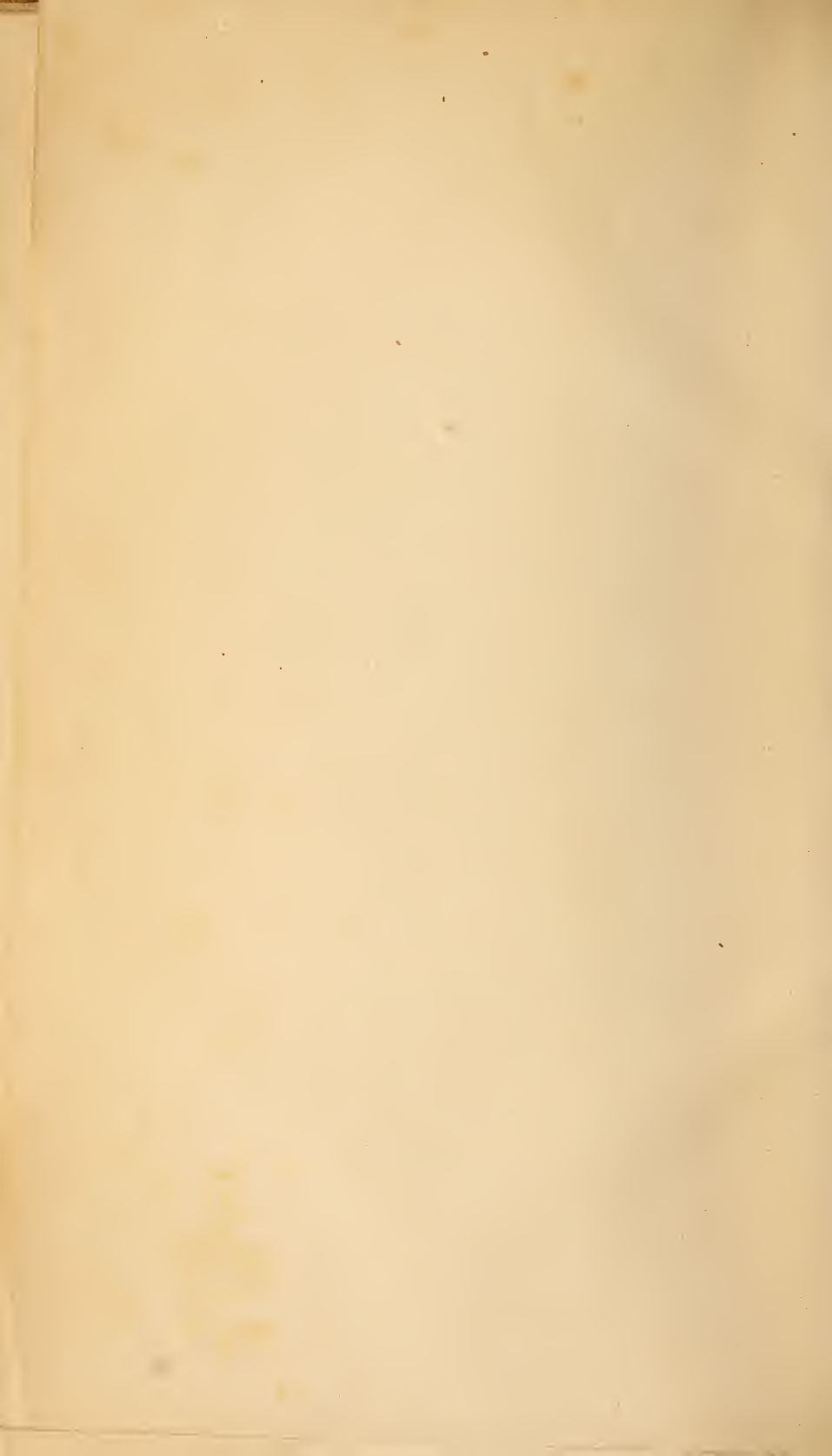






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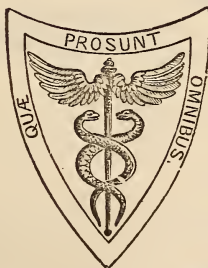
ISAAC HAYS, M.D.,

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AMERICAN MEDICAL ASSOCIATION; OF THE AMERICAN PHILOSOPHICAL SOCIETY; OF THE
ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA,
&c. &c. &c.

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TO READERS AND CORRESPONDENTS.

The gentlemen to whom we entrusted the task of reviewing Dr. STILLE's Elements of General Pathology, and the late Dr. McCLELLAN's Principles and Practice of Surgery, have disappointed us; and we are compelled to postpone the Reviews of these works until our next number.

The following works have been received:—

On Bandaging and other Operations of Minor Surgery. By F. W. SARGENT, M. D. Phila., Lea & Blanchard, 1848. (From the Publishers.)

Manuals on the Blood and Urine. By JOHN WILLIAM GRIFFITH, M. D., F. L. S., &c., G. OWEN REES, M. D., F. R. S., F. G. S., &c., and ALFRED MARKWICK, M. D., &c., in one volume. Philada., Lea & Blanchard, 1848. (From the Publishers.)

Practical Observations on certain Diseases of the Chest, and on the Principles of Auscultation. By PEYTON BLACKISTON, M. D., F. R. S., &c. &c. Philada., Lea & Blanchard, 1848. (From the Publishers.)

Elements of Natural Philosophy; being an experimental Introduction to the Study of the Physical Sciences. By GOLDING BIRD, A. M., M. D., F. R. S., F. L. S., &c. &c. &c., with 372 illustrations. From the revised and enlarged third London edition. Philada., Lea & Blanchard, 1848. (From the Publishers.)

A Dispensatory and Therapeutical Remembrancer; comprising the entire Lists of Materia Medica, Preparations and Compounds, with a Brief and Distinct Version of every Practical Formula, as authorized by the London Edinburgh and Dublin Royal College of Physicians, in the latest Editions of their Several Pharmacopœias; to which are subjoined copious relative tables, exemplifying approved forms under which compatible Medicines, &c., may be extemporaneously combined, &c. &c. &c. By JOHN MAYNE, M. D., L. R. C. S., Edinburgh. Revised with the addition of the Formula of the United States Pharmacopœia, &c. By R. EGLESFELD GRIFFITH, M. D., author of Medical Botany, &c. Phila., Lea & Blanchard, 1848. (From the Publishers.)

The Principles of Mechanics, of Machinery and Engineering. By JULIUS WEISBACH, Prof. of Mechanics and Applied Mathematics in the Royal Academy of Freiburg. First American Edition. Edited by W. R. JOHNSON, A. M., Civ. and Min. Eng. In two Volumes. Illustrated with 1000 engravings on wood. Vol. I. Theoretical Mechanics. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

Elements of General Pathology: a Practical Treatise on the Causes, Forms, Symptoms, and Results of Disease. By ALFRED STILLE, M. D., Lecturer on Pathology and the Practice of Medicine, &c. &c. &c. Phila., Lindsay & Blakiston, 1848. (From the Author.)

Chemical Technology; or Chemistry applied to the Arts and to Manufactures. By Dr. F. KNAPP, Prof. at the University of Giessen. Translated and Edited, with numerous notes and additions, by Dr. EDMUND RONALDS, Lecturer on Chemistry, at the Middlesex Hospital, and Dr. THOMAS RICHARDSON of Newcastle-on-Tyne. First American edition with notes and additions by Prof. W. R. Johnson. Vol. I. Illustrated with 214 engravings on wood. Phila., Lea & Blanchard, 1848. (From the Publishers.)

Lectures on the Theory and Practice of Physic. By JOHN BELL, M. D., &c., and WM. STOKES, M. D., &c. Fourth edition, revised and enlarged. Two vols. 8vo. Phila., Edward Barrington & George D. Haswell, 1848.

Lettres sur la Lithotritie ou l'art de Broyer la Pière. Par le Docteur CIVIALE. Sixième lettre. Paris, 1848. (From the Author.)

Annuaire de la Mortalité Genevoise, publié sur l'invitation du conseil de santé.

Par le Docteur MARC d'ESPINE, Membre du Conseil de Santé, &c. &c. Troisième publication. Années 1844 et 1845. Genève, 1847. (From the Author.)

Mémoire sur les Rétrécissements organiques de l'Urètre, et sur l'emploi de nouveaux instrumens de Scarification et d'Incision, pour obtenir la cure radicale de cette maladie, suivi d'un appendice sur le traitement des rétrécissements par la Malaxation; par MARTIAL DUPIERRIS, D. M. et C. Nouvelle édition. Paris, Germer Baillière, 1847. (From Dr. John B. Beck.)

Proceedings of the Annual Convention of the Connecticut Medical Society, May 1848, together with a list of Members and the Annual Address. Hartford, 1848. (From Dr. RUSSEL.)

Notes on the Theory of Human Existence, comprising remarks on Vitality, the Mind, and incidentally the Soul. The whole being an exposition of the Nature, Powers and Destiny of Man. By THOMAS L. WRIGHT, M. D. Cincinnati, 1848. (From the Author.)

The Physiological Effects of Alcoholic Drinks, from the British and Foreign Medical Review of Dr. FORBES; with Documents and Records of the Massachusetts Temperance Society, illustrating the origin of the Temperance Reformation, and its progress in the State of Massachusetts. Boston, 1848. (From Dr. J. C. WARREN.)

Address delivered before the Alabama State Medical Association at its first regular session at Selma, March 9th, 1848. By H. V. WOOTEN, M. D. Published by the Association. Montgomery, Ala., 1848. (From the Author.)

The Reciprocal Relations of Physicians and Clergymen: a Speech delivered at the Anniversary Dinner of the "New York Society for the relief of Widows and Orphans of Medical Men," on Wednesday, Nov. 17th, 1847. By the Rev. JOHN M'KREBS, D. D. Published by the Stewards. New York, 1847.

Lectures on Yellow Fever, its Causes, Pathology, and Treatment. By JOHN HASTINGS, M. D., U. S. Navy. Phila., Lindsay and Blakiston, 1848. (From the Publishers.)

Ether and Chloroform: a Compendium of their History and Discovery. By HENRY J. BIGELOW, M. D., one of the Surgeons of the Mass. Gen. Hospital. Boston, 1848. (From the Author.)

Report of the Chicago Retreat for the Insane. By EDWARD MEAD, M. D., Superintendent. Chicago, 1848. (From the Author.)

State of the Accounts of the Pennsylvania Hospital for the year ending, fourth month, 22d, 1848, as adjusted by the Managers, and laid before the Contributors at their Annual Meeting, fifth month, 1st, 1848. Philada., 1848.

Fifth Annual Report of the Mount Hope Institution near Baltimore, for the year 1847. By WM. H. STOKES, M. D. Baltimore, 1848.

Transactions of the Belmont Medical Society for 1847. Published by the Society. St. Clairsville, Ohio, 1848.

A case of Typhus or Ship Fever, with Remarks. By WILLIAM INGALLS, M. D., &c. &c. Boston, 1848.

Remarks on Deodorization and Disinfection, and on Sir William Burnett's Disinfecting Fluid, the Solution of the Chloride of Zinc. By F. STRATTON, M. D., Surgeon Royal Navy, Particular Service. Montreal, 1848. (From the Author.)

Address delivered before the State Agricultural Society, Members of the Legislature, and of the Medical Society of the State of New York, at the Capitol in Albany, Feb. 1848, on the Food of Plants. By ALEX. H. STEVENS, M. D., &c. &c. Albany, 1848. (From the Author.)

Valedictory Address to the Graduating Class of the Medical Department of Pennsylvania College, March 7th, 1848. By WILLIAM R. GRANT, M. D., Prof. of Anatomy and Physiology. Published by request of the Class. Philada., 1848. (From the Author.)

An Introductory address delivered before the Medical Class of the Med. School of Maine, March 13th, 1848. By EDMUND R. PEASLEE, A. M., M. D., Prof. of

Anatomy and Surgery. Published by the Class. Brunswick, 1848. (From the Author.)

Annual Address read before the Northern Medical Association of Philadelphia, January 6th, 1848. By ARNOLD NAUDAIN, M. D. Philadelphia, 1848. (From the Author.)

An Address delivered before the Society of Alumni, of the Medical Department of Hampden Sidney College. By CHAS. P. JOHNSON, M. D. Published by order of the Society. Richmond, 1848. (From the Author.)

Nineteenth Annual Report of the Inspectors of the Eastern State Penitentiary of Pennsylvania. Philada., 1848. (From Dr. ROBERT A. GIVEN.)

By-Laws, adopted by the Managers of the New Jersey State Lunatic Asylum, at Trenton, also the Act to provide for the Organization of said Asylum, and for the care and maintenance of the Insane; passed March 23d, 1847: and the supplement to the same act passed March 9th, 1848. Trenton, 1848. (From Dr. H. A. BUTTOLPH, Superintendent and Physician)

Annual Catalogue of the Medical Department of the University of the State of Missouri, (session of 1847-48,) and circular for the ensuing session, with an Address of Dr. SAMUEL CARTWRIGHT, delivered before the class, and published by their request. St. Louis, 1848. (From the Faculty.)

Catalogue of the Second Session of the Memphis Medical College. Session, 1847-48. Memphis, Tenn., 1848.

Catalogue of Medical Graduates in the Univ. of Penn., at the commencement held April 8th, 1848.

University of New York Medical Department. Annual announcement of Lectures. Session of 1848-49. New York, 1848.

A Lecture Introductory to a Course of the Institutes of Medicine and Materia Medica, for Session of 1847-48. By MARTYN PAINE, A. M., M. D., Professor of Inst. of Medicine and Materia Medica, &c. &c. &c. New York, 1847. (From the Author.)

Lecture Introductory to a Course on Obstetrics and the Diseases of Women and Children, delivered April 10, 1848. By WM. HARRIS, M. D. Philadelphia, 1848. (From the Author.)

A Defence of Dr. Charles T. Jackson's claims to the Discovery of Etherization. Containing Testimony disproving the Claims set up in favour of Mr. W. T. C. Morton, in the Report of the Trustees of the Massachusetts General Hospital, and in No. 201 of *Littell's Living Age*. By JOSEPH L. LORD and HENRY E. LORD. Boston, 1848. (From Dr. C. T. Jackson.)

The Ether Controversy. Vindication of the Hospital Report of 1848. By N. J. BOWDITCH. Boston, 1848. (From the Author.)

The following Journals have been received in exchange:—

Revue Médico-Chirurgicale de Paris; sous la Direction de M. MALGAIGNE M. D. P. Feb., March, April, 1848.

Monthly Journal and Retrospect of the Medical Sciences. April, May, 1848.

Provincial Med. and Surg. Journ. Edited by R. J. N. STREETEN, M. D., F. L. S. Foreign Editor, W. H. RANKING, M. D. March, April, May, 1848.

The Edinburgh Medical and Surgical Journal. April, 1848.

British and Foreign Medico-Chirurgical Review, or Quarterly Journal of Pract. Medicine and Surgery. April, 1848.

The London Medical Gazette. April, May, June, 1848.

The Dublin Medical Press. April, May, June, 1848.

The British American Journal of Medical and Physical Science. Edited by ARCHIBALD HALL, M. D., &c. &c. &c. April, May, June, 1848.

Southern Medical and Surgical Journal. Edited by PAUL F. EVE, M. D. April, May, June, 1848.

The Med. Examiner and Record of Med. Science. Edited by R. M. HUSTON, M. D. April, May, June, 1848.

The Western Journal of Medicine and Surgery. Edited by Drs. D. DRAKE, L. P. YANDELL and T. W. COLESCOTT. April, May, June, 1848.

The Western Lancet and Hospital Reporter. Edited by Drs. L. M. LAWSON and J. P. HARRISON. April, May, June, 1848.

The American Journ. of Pharmacy, published by authority of the Philadelphia College of Pharmacy. Edited by JOSEPH CARSON, M. D., assisted by a publishing committee. April, 1848.

The Missouri Med. and Surgical Journal. Edited by T. BARBOUR, M. D., and A. J. COONS, M. D. April, May, June, 1848.

The Charleston Medical Journal and Review. Edited by Drs. P. C. GAILLARD, and H. W. DE SAUSSURE. May, 1848.

The American Journal of Science and the Arts. Conducted by Professors B. SILLIMAN, and B. SILLIMAN, Jr., and JAMES D. DANA. May, 1848.

The New Orleans Medical and Surgical Journal. Edited by Drs. J. HARRISON, W. M. CARPENTER, and A. HESTER. May, 1848.

The Buffalo Medical Journal and Monthly Review of Med. and Surg. Science. Edited by AUSTIN FLINT, M. D. April, May, June, 1848.

The New York Journal of Medicine and the Collateral Sciences. Edited by CHARLES A. LEE, M. D. May, 1848.

The Illinois Medical and Surgical Journal. Edited by Drs. BLANEY, BRAINARD, HERRICK, and EVANS, Profs. in Rush Medical College. Feb., March, 1848.

St. Louis Medical and Surgical Journal. Edited by M. L. LINTON, M. D., and WM. M. MCPHEETERS, M. D. March, April, 1848.

The New Jersey Medical Reporter and Transactions of the New Jersey Medical Society. Edited by JOSEPH PARRISH. April, 1848.

The American Journal of Insanity. Edited by the Officers of the New York State Lunatic Asylum, Utica. April, 1848.

The American Journal and Library of Dental Science. Edited by Dr. C. A. HARRIS, A. WESTCOTT, and W. H. DWINELLE, Esq. April, 1848.

The Annalist; a record of Practical Medicine in the city of New York. Edited by WM. C. ROBERTS, M. D. April, May, 1848.

The North Western Med. and Surgical Journal. Edited by Dr. W. B. HERRICK and JOHN EVANS. April, May, 1848.

Communications intended for publication, and Books for Review, should be sent, *free of expense*, directed to ISAAC HAYS, M. D., Editor of the American Journal of the Medical Sciences, care of Messrs. Lea & Blanchard, Philadelphia. Parcels directed as above and sent (carriage paid) under cover, to John Miller, Henrietta Street, Covent Garden, *London*; or to Wiley & Putnam, *New York*; or W. D. Ticknor, *Boston*; or M. Hector Boscange, Lib. quai Voltaire, No. 11, *Paris*, will reach us safely and without delay. We particularly request the attention of our foreign correspondents to the above, as we are often subjected to unnecessary expense for postage and carriage.

All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Lea & Blanchard.

☞ The advertisement-sheet belongs to the business department of the Journal, and all communications for it should be made to the publishers.

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XII. Principles of Medicine: comprising General Pathology and Therapeutics, and a brief general view of Etiology, Nosology, Semeiology, Diagno-	
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- sis, Prognosis, and Hygienics. By Charles J. B. Williams, M. D., F. R. S., Professor of the Principles and Practice of Medicine, and of Clinical Medicine, and First Physician to the Hospital, University College, London, &c. &c. Second Edition, considerably enlarged. London, 1848: 8vo. pp. 533. 144
- XIII. Lectures on Yellow Fever; its Causes, Pathology, and Treatment. By John Hastings, M. D., United States Navy. 8vo. pp. 69. Philadelphia: Lindsay & Blakiston, 1848. - - - - - 163
- XIV. 1. Thirtieth Annual Report of the Physician and Superintendent of the McLean Asylum for the Insane. Boston: 1848.
2. Twenty-fourth Annual Report of the Physician and Superintendent of the Retreat for the Insane. Hartford: 1848.
3. Thirty-first Annual Report of the State of the Asylum for the relief of Persons deprived of the use of their Reason. Philadelphia: 1848.
4. Twentieth Annual Report of the Physician and Superintendent of the Western Asylum. Richmond, Va.: 1848.
5. Annual Report of the Superintendent of the Kentucky Lunatic Asylum. 1848.
6. Reports of the Physician, and the Superintendent and Resident Physician of the Lunatic Asylum. Columbia, South Carolina: 1847. - - - 166
- XV. Practical Observations on Certain Diseases of the Chest, and on the Principles of Auscultation. By Peyton Blakiston, M. D., F. R. S.; Fellow of the Royal College of Physicians; Physician of the Birmingham General Hospital, and formerly Fellow of Emanuel College, Cambridge. 8vo. pp. 384. Philadelphia: Lea & Blanchard. - - - - - 171
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- XIX. The Dublin Dissector; or, System of Practical Anatomy. By Robert Harrison, M. D., M. R. I. A., &c. &c., Professor of Anatomy and Surgery in the University of Dublin. Fifth edition, Dublin and New York, 1847. 2 vols. 12mo. pp. 915. - - - - - 180
- XX. The Young Stethoscopist; or, The Student's Aid to Auscultation. By Henry I. Bowditch, M. D., one of the physicians of Mass. Gen. Hospital. Second Edition. New York: S. S. & W. Wood, 1848. 12mo. pp. 304. 180
- XXI. On Bandaging and other Operations of Minor Surgery. By F. W. Sargent, M. D. Philadelphia: Lea & Blanchard, 1848: pp. 379. Small 8vo. 180
- XXII.—Elements of Natural Philosophy; being an Experimental Introduction to the Study of the Physical Sciences. By Golding Bird, A. M., M. D., F. R. S., F. L. S., Fellow of the Royal College of Physicians; late President of the Westminster Medical Society; Corresponding Member of the Philosophical Institute of Basle, of the Philosophical Society of St. Andrews, of the Medical Society of Hamburgh, etc.; Assistant Physician to, and Professor of Materia Medica at Guy's Hospital. With three hundred and seventy-two Illustrations. From the revised and enlarged third London edition. Philadelphia: Lea & Blanchard, 1848. - - - - - 181
- XXIII.—Principles of the Mechanics of Machinery and Engineering. By Julius Weisbach, Professor of Mechanics and Applied Mathematics in the

Royal Mining Academy of Freiburg. First American Edition. Edited by Walter R. Johnson, A. M., Civ. and Min. Eng. Formerly Professor of Mechanics and Natural Philosophy, &c. &c. In two volumes. Illustrated with one thousand engravings on wood. Philadelphia: Lea & Blanchard, 1848. 8vo., 408 pp. Chemical Technology; or, Chemistry Applied to the Arts and to Manufactures. By Dr. F. Knapp, Professor at the University of Giessen. Translated and Edited, with numerous Notes and Additions. By Dr. Edmund Ronalds, Lecturer on Chemistry at the Middlesex Hospital, and Dr. Thomas Richardson, of Newcastle-on-Tyne. First American Edition, with Notes and Additions. By Professor Walter R. Johnson, of Philadelphia. Volume I. Illustrated with two hundred and fourteen engravings on Wood. Philadelphia: Lea & Blanchard, 1848. 8vo. 504 pp. - - - - - 182

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THE
AMERICAN JOURNAL
OF THE MEDICAL SCIENCES
FOR JULY, 1848.

ART. I.—*Vital Statistics of Philadelphia, for the decennial period from 1830 to 1840.* By GOUVERNEUR EMERSON, M. D.

VARIOUS causes operating extensively upon the destinies of the human race, could never be recognized, unless viewed in their effects upon large masses. The presence of malign influences would often escape notice, nor could the extent of the evils produced by them, ever be accurately ascertained, without the aid of statistical investigations. It is frequently objected against these, that so many erroneous items are included in the data. But the effectual answer to such objections is, that in the multitude of observations, the errors existing here and there, are neutralized and lost in the great mass of facts accumulated.

In the numbers of this Journal for November 1827, and November 1831, we presented estimates of the mortality, and other interesting matters relating to the changes of the population of Philadelphia, during a period of twenty-four years. We now embrace within our calculations an additional period of ten years, bringing the subject up to the last general census of 1840. This, with our former estimates, includes a period of no less than thirty-four years, and exhibits the vital statistics of Philadelphia and the changes of its population with the mortality from each particular disease, at various ages for that period.

General Population.—The total population of the city of Philadelphia, and adjoining Corporations and Districts making returns of interments to the Board of Health, was, in 1840, according to the census of the general government made in that year, 226,693—an increase of 57,255 within the previous ten years.

Of the entire population, 105,792 were males, and 120,901 females.

TABLE A.

White Population of the City of Philadelphia and adjoining Districts, from which returns of Interments are made. From the United States Census of 1840.

WHITE MALES.														
	Under 5 years.	5 yrs. and under 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 and up- wards.	Total.
City	5667	4027	3423	4125	5963	5582	3025	1390	741	290	74	7	11	37328
Kensington	2190	1486	1101	955	2623	1611	896	383	164	62	10			10881
N. Liberties	2591	1934	1459	1682	3463	2260	1291	692	274	96	18	7	6	15778
Unincorporated N. Liberties	295	203	185	185	326	250	121	81	33	12	2	2		1659
Spring Garden	2089	1600	1192	1414	2731	1752	872	432	168	43	14	3		12315
Penn Township	245	219	164	162	332	278	137	65	44	10	3			1659
Southwark	2190	1508	1197	1180	2578	1907	1038	435	204	81	18	3	1	12390
Passyunk	154	98	116	90	154	104	63	35	22	3	5			847
Moyamensing	1033	649	451	427	965	854	487	252	101	20	9	2	1	5275
Total white males	16474	11729	9288	10223	21533	14598	7930	3818	1751	628	153	24	19	98168
WHITE FEMALES.														
	Under 5 years.	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	100 to 110	Total.
City	5566	4279	4221	5660	11721	6425	3700	2206	1292	570	171	15	1	45830
Kensington	2941	1406	1103	1014	268	1460	862	468	250	118	27	4		9021
N. Liberties	2625	1910	1676	2131	3901	2266	1451	932	433	268	78	13	1	17688
Unincorporated N. Liberties	239	206	196	148	338	198	114	73	39	22				1573
Spring Garden	2037	1621	1472	1856	3312	1836	1014	590	273	115	33	8		14169
Penn Township	283	269	164	162	311	212	86	70	34	20	5		1	1557
Southwark	2164	1556	1293	1535	3045	1771	1165	714	437	175	47	6	1	13909
Passyunk	131	100	78	77	160	78	41	24	14	18				724
Moyamensing	1011	643	533	580	1172	808	389	257	122	63	15	5	2	5600
Total white females	16100	11930	10736	13163	24231	15054	8825	5334	2894	1369	376	51	6	110069
White males	16474	11729	9288	10223	21533	14598	7930	3818	1751	628	153	24	19	98168
Total white males and females	32574	23659	20024	23336	45764	29652	16755	9152	4645	1997	629	75	25	208237

White Population.—The table in our present series, marked A, exhibits the numbers of the white inhabitants at thirteen periods of life. Of the sum total, 208,237, the males constituted 98,168, whilst the females amounted to 110,069. This shows a total increase of 55,068, of which sum 24,621 were males, and 30,447 females.

The numbers of white males and females, compared at the different ages designated, stand thus :

	Under 5 years	Be- tween 5 & 10	10 and 15	15 and 20	20 and 30	30 and 40	40 and 50	50 and 60	60 and 70	70 and 80	80 and 90	90 and 100	100 and up- wards
Males	16,474	11,729	9,288	10,223	21,533	14,598	7,930	3,818	1,751	628	153	24	19
Females	16,100	11,930	10,736	13,163	24,231	15,054	8,825	5,334	2,894	1,369	376	51	6
Excess of females		201	1,448	2,940	2,698	456	895	1,516	1,143	741	223	27	

Under the first and last periods only, do the males exceed the females, whilst in all the others, the female preponderance is very great, especially after the 10th year.

The respective proportions of the white males and females, at the several periods of life designated in the table, are as follows :

Of and under 5 years, the males exceed the females	2.27 per cent.
Between 5 and 10 years the females exceed the males	1.68 "
" 10 and 15 "	" 13.50 "
" 15 and 20 "	" 22.38 "
" 20 and 30 "	" 11.13 "
" 30 and 40 "	" 3.03 "
" 40 and 50 "	" 10.14 "
" 50 and 60 "	" 28.42 "
" 60 and 70 "	" 39.49 "
" 70 and 80 "	" 54.12 "
" 80 and 90 "	" 59.30 "
" 90 and 100 "	" 52.94 "
" 100 years and over the males exceed the females	68.42 "

It thus appears that the excess of males at birth, usually about 7 per cent., has disappeared before the 10th year, at which period an enumeration of the sexes living, between 5 and 10 years of age, exhibits a *female* preponderance of 1.68 per cent. By the 15th year, the female excess has attained about $13\frac{1}{2}$ per cent., and at the next period of life, including the years between 15 and 20, the female preponderance has actually reached 22.38 per cent. It now declines, so that between the 20th and 30th years, the females exceed the males only 11.13 per cent., whilst between the 30th and 40th years, the female excess has declined to 3.03 per cent. Now, however, it again begins to increase, and this goes on pretty steadily through the other ages designated, until, passing the centenary period, the male preponderance, among the few left, returns as at birth.

It is interesting to compare these results with others obtained from the previous census, and to mark the general correspondence and occasional striking differences existing between the proportions of males and females at the different periods of life, in the two decennial periods.

The following statement will show the general concurrence and particular differences.

	1830.	1840.
Of and under 5 years, male excess	$4\frac{3}{4}$	$2\frac{1}{4}$ per cent.
Between 5 and 10 years "	$1\frac{3}{4}$	"
" 5 and 10 years, female excess		$1\frac{3}{4}$ "
" 10 and 15 "	8	$13\frac{1}{2}$ "
" 15 and 20 "	7	$22\frac{1}{2}$ "
" 20 and 30 "	10	11 "
" 30 and 40 "	7	3 "
" 40 and 50 "	9	10 "
" 50 and 60 "	25	28 "
" 60 and 70 "	37	$39\frac{1}{2}$ "
" 70 and 80 "	48	54 "
" 80 and 90 "	44	59 "
" 90 and 100 "	28	53 "

TABLE B.

Coloured Population of the City of Philadelphia and adjoining Districts, from which returns of Interments have been made. From the Census of 1840.

COLOURED MALES.							
	Under 10 years	10 to 24	24 to 36	36 to 55	55 to 100	100 and up- wards	Total
City	940	1029	1130	696	188	3	3986
Kensington	71	45	26	47	11	—	200
Northern Liberties	132	93	103	67	31	—	426
Unincorporated N. Liberties	3	12	12	9	2	—	38
Spring Garden	107	187	205	133	31	2	665
Penn Township	17	14	15	9	3	—	58
Southwark	153	121	122	118	46	3	563
Passyunk	2	6	5	3	1	—	17
Moyamensing	427	409	421	309	104	1	1671
Total coloured males	1852	1916	2039	1391	417	9	7624
COLOURED FEMALES.							
	Under 10 years.	10 to 24	24 to 36	36 to 55	55 to 100	100 and up- wards	Total
City	1124	1901	1921	1156	414	7	6523
Kensington	54	55	54	30	19	—	212
Northern Liberties	122	168	174	81	37	—	582
Unincorporated N. Liberties	—	11	6	6	3	—	26
Spring Garden	111	226	204	119	42	—	702
Penn Township	18	13	15	18	4	—	68
Southwark	154	184	155	141	52	—	686
Passyunk	2	1	2	—	1	—	6
Moyamensing	400	598	569	334	125	1	2027
Total coloured females	1985	3157	3100	1885	697	8	10,832
Total coloured males	1852	1916	2039	1391	417	9	7,624
Total coloured males and females	3837	5073	5139	3276	1114	17	18,456

Coloured Population.—This is exhibited in Table B, drawn from the United States census of 1840. It constitutes about 7.8 per cent. of the total population. The whole amount is 18,456, of which 7,624 are males and 10,832 females. The increase within the decennial period is 3,812, or about 20 per cent., a ratio of about $2\frac{1}{3}$ per cent. per annum. This, it will be observed, is much below the rate of multiplication in the white population, where it is about $3\frac{1}{2}$ per cent.

The different periods of life designated in the census of the blacks are only six, and the disparity subsisting between the proportions of the sexes at each of these is very remarkable, differing greatly from the proportions among the whites alone, as will sufficiently appear by a comparison of the following statements with those previously given.

Estimate of the Proportions of Coloured Males and Females.

	All of and under 10 yrs.	Between 10 and 24 yrs.	24 and 36	36 and 55	55 and 100	100 and upwards.
Males - -	1852	1916	2039	1391	417	9
Females - -	1985	3157	3100	1885	697	8
Female excess -	133	1241	1061	494	280	

Thus, at the 10th year, the females exceeded the males about

	In 1840.	In 1830.
	6½ per cent.	5½ per cent.
Between the 10th and 24th years	39 "	38 "
" " 24th and 36th years	34 "	27 "
" " 36th and 55th years	26 "	14 "
" " 55th and 100th years	41 "	27 "

The great disparity between the sexes among the coloured population in the city of Philadelphia, and which appears to have greatly increased, especially in the more advanced ages, I have formerly attempted to account for by ascribing it to the more frequent demand for the services of females than exists in the country, together with the greater mortality among the males. Of those, however, who reach the extreme duration of life, the males predominate, as we have observed to be the case with the white centenarians.

Births.—In our last series of statistical investigations, published in this Journal for November, 1831, we gave the births for each year of the preceding decennial period. We are now enabled to add ten years more, making in all twenty-one consecutive years, since the record of births was commenced in Philadelphia. Table C exhibits the births in each year of the last decennial period, from 1831 to 1840, inclusive, with the respective proportions of the sexes, totals, and excess of males over the females at birth.

According to the returns made to the Health Office from the various practitioners of midwifery whose names are registered, the grand total of births within the city of Philadelphia and adjoining corporations during the ten years, was 76,536. Of this number 39,512 were males, and 37,024 females, being an excess of males over the females of 6.29 per cent., a ratio rather lower than that furnished by former periods. The cause of this diminution in the excess of male children may probably be referred to the operation of unusual circumstances within the period, which will be the subject of further investigation.

TABLE C.—Births per annum in Philadelphia, from 1831 to 1840 inclusive, with the respective proportions of the Sexes.

Year.	Males.	Females.	Totals.	Excess of male births.
1831	3787	3555	7342	232
1832	3834	3419	7253	415
1833	3840	3802	7642	38
1834	3937	3635	7572	302
1835	4041	3815	7856	226
1836	3864	3544	7408	320
1837	4235	3953	8188	282
1838	3982	3798	7780	184
1839	3769	3493	7262	276
1840	4223	4010	8233	213
Totals	39,512	37,024	76,536	

Mortality.—In addition to the ordinary causes of mortality, Philadelphia has, within the decennial period from 1830 to 1840, been twice visited by a pestilential disease, unknown in the previous history of the country. The total mortality during the ten years, from all causes, amounts to 49,678.

The proportion of deaths to the total population, will be seen by referring to Table D. It has varied, with each year, from 1 in 28 to 1 in 49.

The greatest mortality was in 1832, the first year of the malignant cholera, of which disease the deaths reported amount to 1,021, the whole from all sources being 6,425. The *average* annual mortality, compared to the general population, is about one death in 41 inhabitants.

TABLE D.—Exhibiting the deaths in the city of Philadelphia and adjoining districts in each year from 1830 to 1840 inclusive, with the proportions to the general population, and also those of the white and coloured populations separately (still born excluded).

Year.	Mortality of whites alone.	Mortality of the colored population.	Total population.	Col'd population.	General mortality, still-born excluded.	General mortality to total population.	Proportion of deaths among the whites alone.	Death of blacks alone.
1831	4197	446	174,541	14,985	4623	1 in 37.89	1 in 39.60	1 in 33.60
1832	5754	678	179,694	15,336	6425	" 28.21	" 28.83	" 22.65
1833	3625	450	185,000	15,876	4128	" 45.36	" 47.32	" 35.28
1834	4281	488	190,461	16,285	4765	" 40.69	" 41.46	" 33.37
1835	4793	534	196,084	16,667	5358	" 37.39	" 38.32	" 31.21
1836	4340	697	201,974	17,057	5022	" 41.25	" 43.80	" 24.47
1837	4356	533	207,834	17,456	4881	" 43.89	" 45.16	" 30.75
1838	4525	611	213,970	17,865	5118	" 43.27	" 45.00	" 29.23
1839	4258	549	220,287	18,293	4765	" 48.08	" 49.48	" 31.30
1840	4176	477	226,693	18,456	4593	" 49.37	" 52.28	" 38.68
					Averages,	41.15	43.12	31.05

The following shows the mortality in Philadelphia, in 1840, compared with the population at different periods of life, as represented by the United States census for that year.

	Under 10th yr.	Between 10 and 20.	Between 20 and 30.	Between 30 and 50.	Between 50 and 100.	100 yrs. and upwards.
Total Pop.	60,070	48,473	50,903	49,683	17,612	42
Mortality	2,227	195	496	873	795	7

By this statement, it appears that, in 1840, when the census was taken by the general government, the mortality under the 10th year, compared with the population of and under that age, was 3·7 per cent., or 1 death to about 27 of the population at the age designated. The deaths between 10 and 20, were only 1 in about 260 of the inhabitants of that period of life! Those between the 20th and 30th years of age, were 1 in about 102; between the 30th and 50th years, 1 in about 57; between the 50th and 100th years, 1 in 22; whilst those of and over 100, were 1 in 6 of the inhabitants.

It is proper to observe, that, in estimating the proportions of inhabitants at particular ages, some difficulty exists in consequence of the whites and blacks being enumerated in the census at different ages. Up to the 10th year, the respective proportions are correctly given; but after that age, the column in our statement representing the population between 10 and 20, contains the coloured from 10 to 24, the column of 20 to 30, contains the coloured from 24 to 36, that from 30 to 50, contains the coloured from 36 to 55, and that from 50 to 100, contains the coloured from 55 to 100. As the coloured population constitutes so small a proportion, this irregularity cannot materially affect the results of our calculations.

White Population.—Taking the white inhabitants separately, the average mortality was 1 in 43, the lowest having been 1 in about 29, in 1832, and the highest 1 in 52, in 1840. Notwithstanding the ravages made by two visitations of malignant cholera, the *average* mortality has been considerably lower than for the preceding decennial period, when it was 1 death in 38·85 of the general population.

Coloured Population.—The proportional mortality among the coloured population is given in Table C. Though still considerably more than that of the whites, it is much less than during the past decennial periods. The general average for the 10 years, from 1830 to 1840, was 1 in 31—the greatest proportion having been in 1832, the first year of the malignant cholera, when the deaths were about 1 in 22½ of the coloured inhabitants,—the highest in 1840, when the average was about 1 in 38½. This is strongly and most favourably contrasted with the results of the preceding decennial period, when the average was about 1 in 21, or double the rate of mortality of the whites.

It will thus be seen, that even the increased mortality occasioned by the visitation of an awful pestilence, falls far short of what has occurred at previous periods. In the years 1821 to 1826, inclusive, the annual deaths of the coloured population of Philadelphia, averaged 1 to every 19·8 inhabitants, and during three years of the period, 1 in 15, 1 in 16, and 1 in 17, of the coloured population were swept off.* At present, instead of being double that of the whites, the average ratio of mortality between 1830 and 1840, is 1 in 31 of the coloured inhabitants, that of the whites being 1 in 43. A very great amelioration in the condition of the coloured population is thus shown to have taken place.

Particular Causes of Mortality.—The particular diseases, and other causes, producing the mortality in Philadelphia during the decennial period from 1831 to 1840 inclusive, are designated in Table F. The arrangement is in accordance with the plan of a nomenclature and classification recommended for general adoption by the American Medical Association.

It will be observed, that occasionally no deaths are set down in the columns appropriated to some of the causes embraced in this plan. But it is not to be inferred that none occurred from such sources, since they have doubtless been included under other heads in the bills of mortality. Thus, in the 5th class, there are no deaths recorded from pericarditis, which is well known to be a disease frequently fatal. The deaths from it have probably been arranged, in the general bill, under some other head, or, rather, heads, such as inflammation of the heart, or pleura, or breast, or lungs.

A hiatus of several years will be found in Class 4th, under the head of pleurisy, the deaths from which have undoubtedly been reported under other names, either as pneumonia, bronchitis, or some other acute inflammation of the chest. It is to be hoped that more accuracy may, in future, characterize the certificates of physicians, as well as the annual statements made by the Board of Health.

* See this Journal for November, 1827.

TABLE E.—*Particular Diseases and sources of mortality in Philadelphia, during ten years, showing the amount for each year, 1831 to 1840 inclusive.*

I. ZIMOTIC, EPIDEMIC, ENDEMIC, AND CONTAGIOUS.																
	1. Cholera.	2. Cholera Infantum.	3. Croup.	4. Diarrhœa.	5. Dysentery.	6. Erysipelas.	7. Fever, Intermittent.	8. Fever Remittent.	9. Fever, Typhus.	10. Hooping Cough.	11. Influenza.	12. Measles.	13. Scarlatina.	14. Small Pox.	15. Syphilis.	16. Thrush.
1831	18	302	127	81	121	16	15	98	92	67	24	23	200	18	4	6
1832	1021	366	110	172	75	21	15	94	210	58	41	118	307	43	6	6
1833	9	197	95	67	44	17	7	80	84	53		1	61	168	7	9
1834	204	377	81	123	70	20	3	58	61	48	3	7	83	212	9	8
1835	27	275	128	129	114	15	3	66	42	106		248	305	106	3	9
1836	11	212	115	136	95	24	13	55	220	94		4	240	86	7	9
1837	24	248	104	100	119	20	5	57	107	40		49	205	61	5	13
1838	13	382	101	144	141	22	3	63	70	27		123	134	45	3	13
1839	21	230	83	136	120	19	1	47	47	191		3	225	5	14	
1840	23	150	79	119	118	7	8	39	63	4		2	244	63	7	
	1371	2769	1023	1227	1020	181	73	689	996	688	68	578	2004	827	67	73

II. DISEASES OF UNCERTAIN SEAT. SPORADIC DISEASES.														
	17. Abscess.	18. Atrophy.	19. Cancer.	20. Debility.	21. Dropsy.	22. Gout.	23. Hemorrhage.	24. Infantile Diseases.	25. Inflammations.	26. Malformations.	27. Mortification.	28. Scrofula.	29. Sudden Deaths.	30. Tumors.
1831	21	29	19	293	367	7	33		780		24	28	79	8
1832	19	81	23	259	366	3	30		842		22	25	52	
1833	21	108	95	189	302	3	26		641	8	20	12	23	1
1834	12	96	35	207	353	1	34		731	12	24	7	21	2
1835	30	112	31	178	360	4	40		786	15	35	26	19	2
1836	23	98	28	194	317	7	30		817	10	30	19	19	
1837	21	116	27	165	347	1	22		859	12	28	24		
1838	29	152	41	160	332	3	25		883	17	39	27		
1839	7	149	38	125	357	3	28		888	10	12	18		6
1840	23	125	46	142	293	4	40		846	8	16	22		1
	206	1066	388	1912	3394	36	308		8237	92	250	218	213	20

III. OF THE NERVOUS SYSTEM.											
	31. Apoplexy.	32. Cephalitis.	33. Chorea.	34. Convulsions.	35. Delirium Tremens.	36. Epilepsy.	37. Hydrocephalus.	38. Insanity.	39. Paralysis.	40. Tetanus.	41. Brain, Diseases of.
1831	60	89	1	277	110	12	208	25	59	2	
1832	72	102	1	342	150	7	187	14	47	3	
1833	55	72	0	266	123	15	170	6	40	0	18
1834	76	104	1	280	90	12	198	4	46	9	27
1835	71	106	2	351	62	13	214	13	42	10	33
1836	88	96	1	283	90	8	162	19	45	7	63
1837	57	108	2	298	66	9	192	8	37	4	56
1838	74	150	1	302	62	11	195	3	50	5	45
1839	59	111	1	300	35	13	193	6	51	4	107
1840	86	157	0	286	38	8	145	6	54	7	86
	704	1095	10	2985	826	108	1864	104	471	51	470

IV. ORGANS OF RESPIRATION.										V. ORGANS OF CIRCULATION.		
	42. Asthma.	43. Bronchitis.	44. Consumption.	45. Hydrothorax.	46. Laryngitis.	47. Pleurisy.	48. Pneumonia.	49. Quinsy.	50. Organs, &c., Diseases of.	51. Aneurism.	52. Pericarditis.	53. Organs, &c., Diseases of.
1831	6	63	673	49		24	192			4		
1832	11	97	681	62		19	225			3		
1833	9	37	650	52	3	11	106			5		
1834	10	121	636	52			169			4		
1835	12	171	717	57			240			4		
1836	10	141	755	47	3		205			2		
1837	5	146	748	53	5		226			2		
1838	13	118	725	57			230			4		
1839	9	148	708	67	4		223			7		
1840	9	112	777	44	4	14	211			3		
	593	1159	7070	39	19	76	2092			38		

VI. OF THE DIGESTIVE ORGANS.													
	54. Ascites.	55. Colic.	56. Dyspepsia.	57. Enteritis.	58. Gastritis.	59. Hernia.	60. Intussusception.	61. Peritonitis.	62. Teething.	63. Ulceration.	64. Worms.	65. Organs, &c., Diseases of.	66. Pancreas, Disease of.
1831		4	4	81	34	14	5	23	8		8		
1832		13	7	125	41	7	1		14		12		
1833		8	1	135	43	4	2		9		7		
1834		5		111	41	6	2		10		6		
1835		6	1	96	30	4	3	17	12		9		
1836		3	5	103	39	6	4	25	14		6		
1837	27	3	3	111	34	5		24	10		9		
1838	19	2	0	113	43	2		25	7		4		
1839	22	8	2	175	35	2	2	13	10				
1840	26	7	2	110	41	2		24	5		6		
	94	59	25	1165	386	52	19	156	108		67		

VII. OF THE URINARY ORGANS.						VIII. ORGANS OF GENERATION.				IX. ORGANS OF LOCOMOTION.				X. OF THE INTEG- UMENTARY SYSTEM.			
	71. Diabetes.	72. Cystitis.	73. Gravel.	74. Nephritis.	75. Organs, &c., Dis- eases of.	76. Childbirth.	77. Puerperal Fever.	78. Paramenia.	79. Organs, &c., Dis- eases of.	80. Rheumatism.	81. Joints, &c., Dis- eases of.	82. Hip, Disease of.	83. Spine, Disease of.	84. Fisula.	85. Ulcer.	86. Purpura.	87. Skin, Disease of.
1831	1	4		2		9	14			4					13		
1832	1	1	3	2		5	6			5				1	11		
1833	0	1		2		6	32			9					6		
1834	2	6	1	3		5	19			12					18	1	
1835	3	7	1	1		10	10			17					21	2	
1836	2	3		4		7	13			4				1	5	2	
1837	0	3		1		2	6			2					9	4	
1838	2	5				8	6			10		2			11	2	
1839		2		2		4	9			4		3			7	3	
1840		5		5		7	17			6		7		1	6	4	
	11	37	5	21		63	134			73		27	32	3	107	18	

XI. ON EXTERNAL CAUSES.

	88. Old Age.	89. Burns and Scalds.	90. Drowned.	91. Executed.	92. Frozen.	93. Glanders.	94. Heat.	95. Hydrophobia.	96. Intemperance.	97. Killed accidentally.*	98. Killed by design.	99. Lightning.	100. Malpractice.	101. Necrosis.	102. Poisoned.	103. Strangled.	104. Starved.
1831	74	25	51				2		27			1			2		2
1832	58	21	55						5						3		4
1833	68	30	55				1	2	15		2				3		2
1834	61	27	60		2		16	1	23		2				1		2
1835	71	38	61		4				19		2					18	
1836	72	24	49		8				26		3					5	
1837	97	24	65	1	1				24						14	10	
1838	115	25	53	0	4		26	2	37						16	12	
1839	97	26	39	1	6		2		34						7	19	
1840	115	21	59		4		3		35		3	2			8	26	
	828	261	547	2	29		50	5	243		17	3			58		98

NOT CLASSIFIED.

	Suicide.	Wounds.	Still-born.	Angina Pectoris.	Asphyxia.	Amenorrhœa.	Anæmia.	Anthrax.	Casualties.
1831	10		316	1					20
1832	5	4	274	1	12				20
1833	18	6	312		5				21
1834	9	10	308	2	8	1			24
1835	16	9	302	3	14	1			21
1836	12		335	6	16	1			41
1837	9	1	321	6	15		4		85
1838	14		344	2	11	2	1	1	23
1839	8	3	343		21		1		27
1840	14		356	2	26			2	48
	115	33	3222	23	128	5	8	3	314

CAUSES OF DEATH NOT CLASSIFIED.

	Cæhexia.	Caries.	Constipation.	Calculus.	Congestion.	Cyanosis.	Coup de soleil.	Cold water drinking.	Decay.	Fungus haematodes.	Ilæus.	Tip disease.	Laudanum to excess.	Marasmus.	Mumps.	Neuralgia.	Rickets.	Spina bifida.	Unknown.
1831	4	4		2			1	2	7	1		2	3	0					60
1832	2	3			7		1	2	4	1		2	12	5	1	2			132
1833	6	3	3		31		1	1	6	1		2	16						85
1834	5	2	0		46		8	4		2		4	5				2		105
1835	3	4	3		32		1		5	3	1	3	6				1	2	114
1836	2	2	6		32			1	2	2	2	3		2			4	1	135
1837	2	7	2		40			1		4	0	3		96					197
1838	4	6		4	60					3	4	2				4	2		199
1839		1	1		60		1			3	1	7	6	136		1			176
1840	2	1	3		62	4				1	2	3	125	125	1	1	1	2	86
	33	33	19	8	370	4	13	11	24	21	10	32	48	417	6	8	10	7	1292

* These are included under the head of Casualties.

Classes considered separately.—The 1st Class, containing the mortality from zymotic or epidemic, endemic and contagious diseases, shows for the whole decennial period a grand total of 13,652. This constitutes 1 death from diseases of this class to 3.63 from all other sources of mortality (49,678). Cholera Infantum takes precedence in this appalling list, the number having been 2,769. Next comes scarlatina, the sum total of which is 2,004. Next epidemic cholera, the amount under which head is 1,371, which includes the deaths from Asiatic cholera in 1832 and 1834. The same remark applies to the amount reported under the head of cholera infantum. Then comes diarrhœa, 1,227, followed by dysentery 1,020. The whole mortality from the four bowel affections—cholera, cholera infantum, diarrhœa and dysentery, is no less than 6,387, being nearly 50 per cent. of the deaths from all other diseases included in this class, and 1 in 7.7 of the total mortality from all other sources. It is proper to bear in mind that the great fatality from intestinal affections in this decennial period includes 1,225 deaths from Asiatic cholera, to say nothing of those from the same disease undoubtedly embraced under the head of cholera infantum and other bowel affections. Small-pox has a heavy sum of mortality charged to it, namely, 827 in the 10 years, a great increase on former rates, when compared with the whole amount for the previous 21 years, which is 1,225. The years of its greatest prevalence as an epidemic were 1833-'34 and '35. This shows the great importance of vigilance and necessity of enforcing protective measures, which should on no account be omitted from the exemption sometimes manifested during many years.

Measles occasioned 578 deaths. As the most frequent results of this malady are presented in other forms of disease to which it gives rise, the amount of mortality occasioned through measles indirectly cannot be ascertained with any kind of precision, but must, undoubtedly, be very great.

The deaths from *fevers* embraced in this class, have been included in a separate table F, in which those from scarlet and puerperal fevers have been omitted. The whole amount is 4,549, of which there are 425 merely denominated fever. Under the specific heads of bilious and remittent, there are 687; intermittent, 73; typhus and nervous, 996; making a total under these three heads of 1,756. The greatest mortality from febrile diseases occurred in the year 1832, when they were 853, and in 1836, when they amounted to 769. The columns of this and the table to which it is an appendix, show that the annual amounts fluctuate very greatly, the smallest having been 275 in 1839, when the number of deaths reported under the heads of bilious and remittent were only 47, intermittent 1, and typhus and nervous 47, making only 97 deaths from these diseases in this year, whilst in the year following the amount was only one more. The proportion of deaths from fevers to that from all other sources of mortality is 1 in 10.92.

TABLE F.

Mortality in Philadelphia from particular Fevers, in each year from 1831 to 1840.

	1831	1832	1833	1834	1835	1836	1837	1838	1839	1840	Totals.
Fevers, not designated	66	81	46	35	25	52	34	30	32	24	425
“ Bilious and remittent	98	94	80	58	66	85	57	63	47	39	687
“ Intermittent	15	15	7	3	3	13	5	3	1	8	73
“ Typhus and Nervous	92	210	84	61	42	220	107	70	47	63	996
Fevers of all other kinds except scarlet and puerperal	271	400	217	157	136	380	203	166	127	134	2,181
	276	453	263	175	149	389	213	160	148	142	2,368
Totals	547	853	480	332	285	769	416	326	276	275	4,549

Scarlatina.—The total amount of deaths from this fatal source is, as before stated, 2,004, being nearly one-half of the sum total from all other fevers, puerperal excepted, and constituting rather more than 4 per cent. of the mortality from all other sources. How striking is the contrast with the reported mortality from this disease for a quarter of a century previous. In the year 1827, not a single death is recorded under this head, in 1828 only 1 death from scarlet fever is reported in the bill of mortality; during the whole period from 1807 to 1830, including 24 years, the bills of mortality only exhibit 150 deaths from scarlet fever. The greatest amount in any one year of our decennial period was in 1832, when it rose to 307, the smallest in 1833, when it was 61.

Hooping Cough claims 688 victims, the greatest number being in 1839, when the amount was 191, and the least in 1840, when only 4 deaths are returned under this head. The proportion of deaths from this disease to that from all other sources, is 1 in 72, being less than for the 20 years previous, when it was about 1 in 63 of the general mortality.

Croup.—Under this head we find no less than 1023 deaths recorded, the highest number in a single year being 127 in 1831, and the lowest 81 in 1834. In the 20 years from 1807 to 1827, the deaths reported from croup constituted 1 in 51 of the general mortality. During the last decennial period, it was 1 in 48, being a slight increase over former years.

CLASS II.—Showing the mortality from *diseases of no particular seat, as well as sporadic diseases*. This presents a grand total of 16,241 deaths, constituting about one in three of the general mortality from all sources.

Phlegmasia.—About half of the grand total just given, is from inflammations of various kinds, the whole amount of which is 8257. The fatal results of the different phlegmasiæ are exhibited in Table G.

TABLE G.

Phlegmasia or Inflammations.

	Of the Lungs (Pneumonia)	Breast (Pneumonia)	Pleurisy	Bronchitis	Croup	Catarrh	Larynx	Stomach	Bowels	Colon	Peritoneum	Brain	Heart	Liver	Kidney	Bladder	Womb	Throat	Totals
1831	192	28	24	63	127	58		34	81	4	23	89	5	42	2	4	4		780
1832	225	19	19	97	110	51		41	125			102	4	21	1	1	2	24	842
1833	166	17	8	37	95	26	3	48	135	8		72	2	18	2	1		3	641
1834	169	15	11	121	81			41	111	5		104	6	37	3	6	2	19	731
1835	240	37		171	128			30	96	6	17	106	9	23	1	7	3	12	886
1836	205	44		141	118		3	39	103	3	25	96	8	17	4	3	5	3	817
1837	226	42		146	104		5	34	111	1	24	108	2	26	1	3	6	20	859
1838	230	41		118	101			43	118	2	25	150	3	21		5	4	22	883
1839	228	27		148	83		4	35	175	8	18	111	5	30	2	2	1	11	888
1840	211	28	14	112	79		4	41	110	7	24	157	12	25	5	5	1	11	846
Totals	2092	298	76	1154	1026	135	19	386	1165	44	156	1095	56	260	21	37			
Other Phlegmasia																			64
Total																			8237

The deaths from inflammatory affections of the lungs and air passages, amount to 4800, being nearly one-half of the deaths, from all kinds of inflammation. Of these, 2390 may be placed under the head of pneumonia; 76 of pleurisy; 1154 of bronchitis; 1026 of croup; 19 of the larynx, and 135 of catarrh. The great mortality from inflammatory affections of the lungs and air-passages, shows the importance attached to their prevention and treatment.

Inflammation of the stomach, bowels and peritoneum carried off 1751, of which no less than 1165 are under the head of inflammation of the bowels. The proportion of deaths from these abdominal affections is about one in nine of the deaths from all the phlegmasia.

In addition to the deaths from inflammations designated in Table G, there were 64 registered during the 10 years, under the following heads, viz: inflammation, 28; inflammation of the trachea, 10; spinal marrow, 5; vein, 5; arachnitis, 4; parotid gland, 3; spleen, 2; knee-joint, 2; scrotum, 2; testicle, 1; pharynx, 1; aorta, 1.

TABLE H.

Mortality in Philadelphia from Dropsical Affections from 1831 to 1840.

	1831	1832	1833	1834	1835	1836	1837	1838	1839	1840	Total.
Dropsy	111	115	80	103	89	108	72	61	75	77	891
“ of the breast	48	62	52	52	57	47	53	57	67	44	539
“ of the head	208	187	170	198	214	162	192	195	193	145	1864
“ of the spine		2					2				4
“ abdominal							27	19	22	26	94
“ ovarian							1			1	2
	367	366	302	353	360	317	347	332	357	293	3394

Dropsies.—The deaths from these are next in amount after those from inflammations, being for the whole ten years 3394, constituting about 1 in 11 of the deaths from all other diseases. No less than 1864, or above one-half, are recorded as dropsy of the head, and 539 as dropsy of the chest, which two designations embrace about 70 per cent. of the whole mortality from all kinds of dropsy. The deaths are distributed through the different years with remarkable regularity, the highest number being 367 in 1831, and the lowest 293 in 1840.

Debility and Atrophy.—Under these two vague heads, used so frequently from ignorance of the specific disease causing death, are included no less than 2978 deaths, of which 1912 are set down to debility, and 1066 to atrophy.

Abscess.—This head embraces 210 deaths under 14 different heads, of which that of *abscess* without any further designation contains 140; abscess in the lungs, 26; of the liver and lungs, 13; of the liver alone, 10; in the brain, 7; lumbar, 3; hip and leg, 2; neck, 2; ear, 2; kidneys, 1; throat, 1; knee-joint, 1; side, 1; abdomen, 1.

Cancer.—There are 326 deaths from cancer, and 66 from scirrhus, making in all 388 deaths from these sources in the 10 years. Of the deaths under the head of cancer, the seats of 192 are undesignated, 55 are of the uterus, 26 of the breast, 22 of the stomach, 7 of the mouth, 4 of the liver, 3 of the rectum, 3 of the face, 2 of the ovaries, 2 of the neck, 2 of the penis, 1 of the intestines, 1 of the leg, 1 of the throat, 1 of the lungs, 1 of the tongue.

Of the deaths recorded under the name of *scirrhus*, there were 16 the seats of which were undesignated, 16 of the stomach, 12 of the liver, 7 of the uterus, 4 of the pylorus, 2 of the bowels, 2 of the rectum, 1 of the prostate gland, 1 of the breast, and 1 of the ovaries. The deaths reported from cancer and scirrhus are spread through the different years with considerable uniformity, showing a steady increase with that of the general population. Beginning with those reported in 1831, the annual sums run thus, up to 1840: 20, 32, 39, 42, 41, 36, 39, 51, 38, 46.

The deaths from hemorrhage have no designation of the different kinds until the year 1837, in which, and the three following years, 126 deaths are reported, distributed under the following heads: From the lungs, 9; stomach, 10; bowels, 9; uterus, 8; bladder, 1; gums, 1; undesignated, 46.

Infantile Diseases, which, according to the mode of classification adopted, are embraced in this division, will be the subject of future consideration.

CLASS III. Diseases of the Nervous System.—The sum total of deaths from this class of affections is formidable, being 8688.

Convulsions claim, as usual, the largest proportion of victims recorded under a separate head, the whole amount during the decennial period being 2985. The numbers reported for the various years have considerable regularity, the highest being 351 in 1835, and the lowest 266 in 1833.

The deaths from convulsions constitute more than one-third of those from all diseases of the nervous system. Being generally the result of some particular affection of the brain, the term convulsion commonly designates but a symptom, and not the specific disease or true cause of death.

Hydrocephalus is charged with 1864 deaths, cephalitis 1095, delirium tremens 826, apoplexy 704, palsy 471, epilepsy 108, insanity 104, tetanus 51, and chorea 10.

The column numbered 41, embraces the deaths reported in the bills of mortality from diseases of the brain not specified in the table. The whole amount is 470, distributed as follows: Disease of the brain, 231; concussion of the brain, 12; compression of the brain, 9; congestion of the brain, 123; effusion on the brain, 38; irritation of the brain, 7; abscess in the brain, 7; softening of the brain, 34; suppuration of the brain, 1; injury of the brain, 7; tumour on the brain, 1.

The columns representing the deaths annually from *delirium tremens* and *insanity*, both exhibit a very considerable decline in the last years of the series. This is mainly owing to the fact that the public institutions, to which most of such cases are committed, have been removed beyond the limits of the Board of Health. Part of the diminution is, however, doubtless owing to the progress which temperance societies have made in checking and reforming bad habits, aided by the happy influences exerted upon communities by the spread of intelligence.

CLASS IV, containing the Deaths from Diseases seated in the Organs of Respiration.—Many of these have already been presented under different heads, in the tables exhibiting the deaths from the phlegmasia, and dropsies appertaining to Class II. Taking the whole amount of mortality reported in the bills under the heads of inflammation of the lungs and pneumonia, 2092,—inflammation of the breast and chest, 298,—pleurisy, 76,—bronchitis, 1154,—croup, 1026,—catarrh, 135,—inflammation of the larynx, 19,—asthma, 93,—consumption, 7070,—we have a grand total of 11,963 deaths during the decennial period, from diseases located in the lungs and air-passages.

The mortality from these sources, when compared with that from all others, is about 1 to 4. The amount from consumption alone comprises by far the greatest portion, being 7070 for the 10 years, or 1 in 7 of the deaths from all other diseases, and about 1 death per annum to 282 of the general population. The ratio of mortality from this direful scourge, though much lower than in some others of our large cities, is increased by the greater prevalence of phthisis among the large coloured population. Could the deaths from consumption of the whites be separately estimated, the ratio of mortality would be much less, and especially so could there be a deduction of the interments of the many strangers who resort to Philadelphia for amelioration of this disease in its advanced stages.

The annual sums of mortality from consumption, present a very regular

increase, the highest number being 777 in 1840, and the lowest 636 in 1834. The lowest ratio of mortality to the general population was in 1839, when it was 1 to 325 inhabitants, and the highest in 1831, when it was 1 in 259.

CLASS V. *Deaths from Diseases of the Organs of Circulation.*—The manner in which the bills of mortality have been made out, does not admit of the filling up of but one of the three columns devoted to this class. The deaths from inflammation of the heart will be found in the table devoted to the phlegmasia, whilst those from diseases of some other organs of the circulation, are scattered through other tabular statements.

The deaths recorded from diseases of the heart amount to 339, distributed as follows: diseases of the heart, 240—hypertrophy of the heart, 90—ossified valves, 4—dilatation, 5.

CLASS VI. *Diseases seated in the Digestive Organs.*—By far the largest amount of deaths from diseases in these organs, is embraced in Class I., under the heads of cholera, diarrhœa, dysentery, &c. The total mortality charged to Class VI., is 2516, and more than one half of this amount is from phlegmasia already mentioned, such as enteritis, gastritis, etc.

CLASS VII. *Diseases situated in the Urinary Organs,* only furnish 74 deaths in the whole decennial period. Of these, 11 are from diabetes, 37 cystitis, 5 gravel, and 21 nephritis. To the deaths from gravel we may add 8 from a column of the unclassified diseases headed calculus, making the whole number of deaths from gravel and stone 13.

CLASS VIII. *Diseases of the Organs of Generation* exhibit a mortality of 197, all of which are from affections peculiar to females, and attendant upon parturition. Puerperal fever is charged with 144 deaths, and 63 are indefinitely ascribed to "childbirth."

CLASS IX. *Diseases of the Organs of Locomotion.*—Of these, numbering in all 132, rheumatism is charged with 73, hip joint disease with 27, and spinal disease with 32.

CLASS X.—*Diseases of the Integumentary System* embrace 128 deaths under three heads, of which 107 are from ulcers, 18 purpura, and 3 fistula.

CLASS XI.—The column headed *Deaths from Old Age*, contains 828. Of these, there are placed between the 50th and 60th year, 21; between 60th and 70th, 66; between 70th and 80th, 246; between 80th and 90th, 369; between 90th and 100th, 130; between 100th and 110th, 29, and over 110, 1. In 1832, the bills commence distinguishing the males and females under this head, and it appears that, out of 788 deaths reported, 530 were females; and only 258 males.

Under the indefinite head of "Congestion," we have 370 deaths recorded, with the following designations:—Of the liver, 4; lungs, 123; brain, 238; not specified, 5.

The deaths ascribable to "*External Causes*," are distributed under a great many heads. There are no less than 547 under that appropriated to

the "Drowned," and 261 in that of "Burns and Scalds." "Excessive Heat" is charged with 50 deaths, 16 of which were in 1834, and 26 in 1838; 29 are registered "Frozen," of which 8 were in 1836, 6 in 1839, 4 in 1835, and 4 in 1840. Intemperance numbers 243 deaths, suicide 115, wounds 33, poisoned 58, killed by design 17, by lightning 3, executed 2, hydrophobia 5, starved 98.

The still-born, in the ten years, amount to 3222, being rather under 6½ per cent. of the whole mortality, and about 1 to 24 live births.

For nine years of the decennial period, from 1832 to 1840 inclusive, the sexes of the still-born are designated. Of 2906 reported cases, 1665 were males, and 1241 females. The sexes were not given separately in 1831. This head undoubtedly embraces the dead-born at all periods of gestation. It would be interesting to have the sexes of the still-born, strictly so called, distinguished from those of the dead-born at the natural period of gestation, as this would show the amount of the greater risks run in parturition by the males.

TABLE J.

Deaths in Philadelphia for each Month of ten years, from 1831 to 1840, with a designation of those which occurred over and under the 20th year.

Year.	January.			February.			March.			April.			May.			June.		
	Adults.	Under 20.	Totals.	Adults.	Under 20.	Totals.	Adults.	Under 20.	Totals.	Adults.	Under 20.	Totals.	Adults.	Under 20.	Totals.	Adults.	Under 20.	Totals.
1831	159	147	306	166	170	336	156	173	329	197	162	359	149	164	312	114	198	312
1832	253	361	614	151	324	475	218	298	516	215	257	472	274	299	573	179	211	390
1833	203	192	395	152	168	320	180	186	366	175	148	323	178	179	357	141	209	350
1834	200	212	412	160	194	354	181	234	415	160	152	312	154	167	321	121	210	331
1835	186	288	474	170	260	430	216	246	462	197	373	570	158	305	463	155	312	467
1836	182	275	457	165	222	387	177	196	373	254	225	479	231	149	380	204	182	386
1837	216	274	490	175	221	396	192	235	427	257	286	543	156	186	342	145	181	326
1838	247	222	469	169	239	408	174	242	416	174	322	496	144	228	372	134	210	344
1839	189	279	468	164	237	401	203	282	485	147	209	356	138	184	322	131	296	427
1840	241	297	538	174	206	380	156	241	397	222	273	495	142	193	335	163	204	367
Totals	2076	2547	4623	1646	2241	3887	1853	2333	4186	1998	2407	4405	1723	2054	3777	1487	2213	3700

Year.	July.			August.			September.			October.			November.			December.		
	Adults.	Under 20.	Totals.	Adults.	Under 20.	Totals.	Adults.	Under 20.	Totals.	Adults.	Under 20.	Totals.	Adults.	Under 20.	Totals.	Adults.	Under 20.	Totals.
1831	178	407	585	156	256	442	206	275	481	175	203	378	184	207	391	380	328	708
1832	200	365	565	1099	590	1689	215	234	449	194	192	386	130	127	257	136	177	313
1833	224	362	586	162	240	402	167	180	347	199	161	360	166	149	315	152	167	319
1834	261	506	767	163	311	474	219	214	433	347	242	589	146	165	311	177	177	354
1835	197	478	675	162	365	527	189	335	524	143	203	346	190	207	397	149	242	391
1836	260	310	570	216	319	545	229	301	530	189	194	382	209	187	397	235	265	500
1837	222	417	639	173	376	549	194	295	489	153	187	340	142	168	310	167	181	348
1838	273	597	870	175	425	600	208	321	529	162	175	337	143	153	296	150	161	311
1839	196	379	575	154	363	517	147	237	384	206	215	421	144	178	322	133	189	322
1840	233	385	618	158	281	439	184	203	387	192	214	406	146	128	274	150	153	303
Totals	2264	4206	6470	2618	3546	6164	1958	2595	4553	1960	1986	3946	1540	1669	3209	1829	2040	3869

Monthly Mortality.—In Table J, the deaths during ten years are distributed among the different months in which they occurred, showing the influence of the seasons upon the mortality of both adults and children. It may be interesting to compare the results with those presented in the second series of statistical calculations, published in the *American Journal of the Medical Sciences* for November, 1831. Among the most conspicuous developments is that of the diminution of the sums of the general mortality for those months in which a moderate temperature prevails, such as May and October, compared with the augmentation of the sums for the cold, but more especially for the warmest months, chiefly from the unfavourable effects of extreme heat upon infants.

The months, when arranged according to the decreasing mortality of the general population of all ages, take the following order, the short months having been equalized: 1st, July, 6470; 2d, August, 6164; 3d, September, 4704; 4th, January, 4623; 5th, April, 4551; 6th, February, 4301; 7th, March, 4186; 8th, October, 3946; 9th, December, 3869; 10th, June, 3823; 11th, May, 3777; 12th, November, 3306.

During the four last years of the decennial period, the bills of mortality exhibit the monthly deaths of the coloured inhabitants separately. The following statement will show the influence of the seasons upon this division of the population, numbering about 18,000.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
1837	46	41	45	69	41	43	73	41	47	40	30	52	568
1838	60	46	53	69	51	36	93	65	62	34	33	47	649
1839	49	54	63	48	37	47	65	52	40	55	34	40	584
1840	55	41	38	70	30	43	80	31	27	37	26	29	507
Monthly totals,	210	182	199	256	159	169	311	189	176	166	123	168	2308

The months, when arranged so as to show the decreasing mortality of the coloured population alone, take the following order, which will be found considerably different from that exhibited by the general mortality: 1st, July, 311; 2d, April, 256; 3d, January, 210; 4th, February, 200; 5th, March, 199; 6th, August, 189; 7th, Sept., 176; 8th, June, 169; 9th, Dec., 168; 10th, October, 166; 11th, May, 159; 12th, November, 123.

TABLE K.

Monthly Mortality in Philadelphia in four consecutive years, from 1837 to 1840, at various ages up to the 20th year.

Month.	Under 1 y ^r . (still born excluded.)	Between 1st and 2d year.	Between 2d and 5th year.	Between 5th and 10th year.	Between 10th and 20th year.	Totals.	Months equalized.
January	422	184	202	90	55	953	953
February	342	158	165	66	58	789	868
March	400	152	194	76	64	886	886
April	429	177	210	97	63	976	992
May	268	118	166	65	60	677	677
June	413	123	133	47	61	777	806
July	1030	360	184	92	88	1754	1754
August	657	397	160	87	60	1361	1361
September	451	268	178	67	56	1020	1054
October	299	123	132	61	58	673	673
November	222	95	114	38	44	513	527
December	238	98	132	53	49	570	570
	5,171	2,253	1,970	839	716	10,979	

The effects of the fatal influences exerted in particular months upon the different ages under the 20th year, are shown in Table K, where the monthly deaths at the various periods of life designated in the bills of mortality, are given for four consecutive years. In the column next to the last, are the actual totals for the several months, which, having different lengths, do not, of course, present the proportional mortality for an equal space of time. We have therefore equalized the months in the last column, so as to give to the short the proportions of the long months.

It will be seen that the mortality in the first year of life was 5,171, which is about 47 per cent. of the whole mortality under the 20th year, (10,979,) and about 27 per cent. of the mortality at all ages. The deaths under the 5th year amount to 9,394, constituting about 86 per cent. of the whole mortality under the 20th year, and leaving but 16 per cent. for the succeeding 15 years of life. Compared with the total mortality at all ages, that under the 5th year comprises 49 per cent., and that under the 20th year, 56 per cent.

When we compare the several months for the purpose of ascertaining their proportional infantile mortality, we find them in the equalized column taking the following order, commencing with the highest totals: July, 1754; August, 1361; September, 1054; April, 992; January, 953; March, 886; February, 868; June, 806; May, 677; October, 673; December, 570; November, 527. After the 2d year of life, the columns exhibiting the deaths during the subsequent 18 years, present comparatively slight fluctuations with the changing seasons. Casting the eye down the 1st and 2d columns, the swelling of the numbers representing the mortality in June,

July, August and September, is very conspicuous, whilst in the columns containing the deaths after the 2d year of life, little, if any, increase is perceptible during the warm months. On the contrary, after the 2d year, the warm months seem more favourable to life than the cold months. This fact—the destructive influence exerted by the hot season upon infantile life, and its limitation almost to the first year of existence,—is a subject which we have formerly treated of in the paper referred to, published in the *American Journal of the Medical Sciences* for November, 1831.

ART. II.—*Statistics of Amputations in the New York Hospital, from January 1st, 1839, to January 1st, 1848.* By HENRY W. BUEL, M.D., Resident Surgeon.

THE importance of accurate knowledge with regard to such an operation as that of amputation, will hardly be questioned. By the ancients, unacquainted as they were with the circulation of the blood, or the proper means of arresting its flow, this operation was dreaded and avoided. To such an extent were they impressed with its danger, that we even find it recommended that “a limb should be allowed to drop off rather than to cut it off.” As the operation advanced more nearly to perfection, we find Mr. Benjamin Bell saying, “In the present improved state of the operation, I do not imagine that one death will happen in twenty cases, even including the general run of hospital practice.”

Opinions similar to this last have been held until quite recently, and are probably even yet entertained by some, if not many, surgeons.

Within a few years, however, the subject has attracted more careful examination. Mr. Benjamin Phillips of London, and M. Malgaigne of Paris, have published statistical accounts of amputations performed in the respective countries where they reside. The former gentleman has also extended his observations into other countries.

In our own country, Dr. Norris of Philadelphia, and Dr. Hayward of Boston, have published accounts of hospital amputations.

The following tables include all the amputations, so far as they can at present be collected, that have been performed at the New York Hospital during the nine years included between Jan. 1st, 1839, and Jan. 1st, 1848. Unfortunately there is a portion of time embracing the cases occurring in one of the two surgical divisions of the hospital, during parts of the years 1842 and 1843, of which, owing to the loss of one of the twelve volumes of the hospital case books, a full account cannot at present be obtained.

AMPUTATION AT

No.	Name.	Age.	Disease or injury.
1	William Cahill	22	Thigh severed by railroad car

AMPUTATIONS OF

No.	Name.	Age.	Disease or injury.
1	Michael Powell	28	Fracture, 2d time
2	James Duffy	40	Compound fracture of both thighs, R.R.
3	Hugh Murphy	27	Comminuted fracture, R.R.
4	John Langen	19	Disease of knee-joint, 2 years
5	Sarah Ann Smith	40	Encephaloid tumour
6	Peter Titus	29	Disease of knee-joint, 8 months
7	Mary Ann Murray	7	Comminuted fracture
8	Joseph Peabody	20	Fungus hematodes of knee
9	Joseph Barr	15	Fracture followed by mortification
10	James Foley	45	Fracture at neck of femur, gangrene
11	John M'Kane	46	Comminuted fracture, at ferry
12	Morris O'Rourke	25	Compound fracture into knee-joint, R.R.
13	Thomas Lee	15	Compound fracture of leg, at sea
14	James Robertson	31	Disease of knee-joint, 3 years
15	John Colbert	54	Compound fracture, R.R.
16	Thomas Fallow	16	Disease of knee-joint, 7 months
17	John W. Leonard	52	Compound fracture, sec. hemorrhage
18	Ebenezer Armstrong	45	Compound fracture
19	William Hollaham	22	Disease of knee-joint, 7 years
20	Thomas Halfpenny	30	Disease of knee-joint, 3 years
21	John Hackett	38	Abscess of thigh
22	Henry Wilson	27	Gunshot wound of thigh
23	John Buiner	36	Disease of knee-joint, 3 years
24	Thomas M'Ivoy	27	Comminuted fracture
25	John Halligan	26	Disease of knee-joint, 3 months
26	Samuel Sheller	22	Disease of knee-joint, 2 months
27	Sarah Kells	24	Disease of knee-joint, 2 years
28	Samuel H. Drummond	34	Disease of knee-joint, 2 months
29	Thomas Brannard	14	Diffused abscess of thigh and leg
30	Thomas M'Nestry	25	Comminuted fracture
31	John C. Voorhis	39	Compound fracture, followed by gangrene
32	William H. Price	27	Disease of knee-joint, 5 months
33	Hugh Chittuck	24	Disease of knee-joint, 12 months
34	William Fisher	66	Compound fracture of thigh

AMPUTATION AT

No.	Name.	Age.	Disease or injury.
1	Ellen Callighan	35	Burn of foot, leg and thigh

THE HIP-JOINT.

Date of admission.	Date of operation.	Result.	Date of discharge or death.
January 9, 1847	January 10, 1847	Died	January 10, 1847.

THE THIGH.

Date of admission.	Date of operation.	Result.	Date of discharge or death.
March 31, 1838	March 14, 1839	Died	March 24, 1839.
July 4, 1839	July 4, 1839	Died	July 7, 1839.
July 16, 1839	July 16, 1839	Cured	October 7, 1839.
August 19, 1839	August 22, 1839	Cured	November 26, 1639.
September 3, 1839	September 12, 1839	Cured	November 23, 1839.
May 30, 1840	June 26, 1840	Died	July 26, 1840.
July 26, 1841	July 26, 1841	Cured	November 27, 1841.
October 6, 1841	October 7, 1841	Died	December 3, 1841.
September 23, 1841	October 18, 1841	Cured	January 4, 1842.
October 11, 1841	October 29, 1841	Cured	January 31, 1842.
December 20, 1841	December 20, 1841	Died	December 24, 1841.
February 20, 1842	February 20, 1842	Died	February 25, 1842.
February 9, 1842	March 2, 1842	Cured	June 25, 1842.
September 8, 1842	January 20, 1843	Cured	February 28, 1843.
November 25, 1843	November 25, 1843	Died	November 25, 1843.
June 13, 1843	January 6, 1844	Cured	March 11, 1844.
November 28, 1843	January 27, 1844	Cured	June 18, 1844.
June 19, 1844	June 19, 1844	Cured	October 16, 1844.
August 23, 1844	September 10, 1844	Cured	November 8, 1844.
November 13, 1844	November 28, 1844	Cured	January 18, 1845.
January 18, 1845	February 11, 1845	Cured	May 20, 1845.
October 21, 1844	February 20, 1845	Died	March 6, 1845.
December 7, 1844	March 11, 1845	Cured	May 1, 1845.
July 11, 1845	July 15, 1845	Cured	August 25, 1845.
July , 1845	October 11, 1845	Cured	December 9, 1845.
August 16, 1845	January 10, 1846	Cured	February 20, 1846.
January 6, 1846	January 12, 1846	Cured	May 12, 1846.
August 16, 1845	February 7, 1846	Cured	March 26, 1846.
April 7, 1846	April 19, 1846	Died	May 6, 1846.
November 28, 1845	April 20, 1846	Cured	October 12, 1846.
July 4, 1846	July 9, 1846	Cured	November 20, 1846.
January 19, 1847	February 13, 1847	Died	February 18, 1847.
March 20, 1847	June 7, 1847	Cured	August 3, 1847.
August 30, 1847	September 30, 1847	Cured	April 10, 1848.

THE KNEE-JOINT.

Date of admission.	Date of operation.	Result.	Date of discharge or death.
January 27, 1846	February 9, 1846	Died	March 7, 1846.

AMPUTATIONS OF

No.	Name.	Age.	Disease or injury.
1	Lydia Cunningham	10	Compound fracture of leg, R.R.
2	Peter Connell	28	Irritable stump, after amputation at sea
3	Christopher Mumford	54	Compound fracture from bursting of a cannon
4	Patrick Farley	23	Comminuted fracture, mortification
5	Charles J. Titcomb	23	Caries of tibia of long duration
6	Thomas Lawless	45	Compound fracture of leg
7	Michael Parker	30	Scrofulous disease of ankle, 15 months
8	Mary Gray	45	Compound fracture of leg
9	Edwin Marshall	35	Compound fracture of leg
10	Henry C. Frink	35	Malignant tumour of leg
11	Richard Shepherd	51	Compound and comminuted fracture of foot
12	Owen Quin	50	Compound and comminuted fracture of leg
13	Patrick Shay	37	Compound and comminuted fracture of leg, R.R.
14	Matthew Henessey	22	Compound fract. of leg and fract. of vertebræ
15	Martin Durkin	30	Comminuted fracture of tarsus, fibula, &c., R.R.
16	John Galligan	11	Compound dislocation of ankle, &c.
17	Thomas Stewart	26	{ Compound fracture of tib., fr. humeri and comp. fr. rad. and uln.
18	William Henry Short	30	Disease of ankle-joint, after erysipelas
19	Patrick Tenman	28	Compound fracture and dislocation of ankle
20	John Egan	25	Comp. fr. of tib. and fib., simp. fr. of femur, R.R.
21	Patrick Everard	45	Compound fracture of tarsus, fibula, &c., R.R.
22	Albert Stone	12	Laceration followed by sloughing, R.R.
23	Charles Hemmaling	25	Chronic disease of ankle-joint, 3 months
24	Morris Marra	50	Compound fracture of tib. and fibula

AMPUTATIONS AT

No.	Name.	Age.	Disease or injury.
1	David Jarvis	19	Laceration of arm by gunshot
2	John Maloney	37	Burn from sleeve taking fire
3	George Hamilton	23	Burn, 5 months
4	Hannah Murphy	30	Burn
5	Robert Cannon	21	Arm torn off in falling from a height
6	Ellen Shannon	4	Burn, arm sphacelous
7	Heinrich Bordmann	32	Arm torn to shreds in machinery
8	Margery M ^c Vernon	70	Burn
9	James M ^c Vickar	34	Comminuted fracture of os brach., gangrene

AMPUTATIONS OF

No.	Name.	Age.	Disease or injury.
1	Richard Fisher	22	Scrofulous disease of elbow-joint, 3 months
2	Michael Aymer	23	Compound fracture of forearm
3	Gottfried Spurling	35	Wound of arm, mal-treated
4	John Lamphine	40	Inflammation of hand and forearm, gangrene
5	Alexander Dalrymple	9	Compound and comminuted fracture
6	James Hagan	9	Scrofulous disease of elbow-joint
7	John Belford	17	Arm torn by machinery
8	Charles Peterson	13	Arm torn off by machinery
9	George Fisher	32	Compound fracture of rad. uln. and os brach.
10	John Gannen	31	Compound fracture of os brach.
11	Hugh Sheridan	55	Forearm torn off by machinery

THE LEG.

Date of admission.	Date of operation.	Result.	Date of discharge or death.
August 3, 1839	August 3, 1839	Cured	November 4, 1839.
May 4, 1840	May 4, 1840	Cured	July 30, 1840.
July 4, 1840	July 4, 1840	Died	July 9, 1840.
May 13, 1841	May 13, 1841	Died	May 14, 1841.
August 5, 1841	August 10, 1841	Died	September , 1841.
September 3, 1841	September 3, 1841	Cured	December 13, 1841.
September 15, 1841	November 4, 1841	Cured	March 1, 1842.
December 27, 1841	January 9, 1842	Cured	May 10, 1842.
May 28, 1844	May 28, 1844	Died	June 5, 1844.
July 30, 1844	July 31, 1844	Cured	September 21, 1844.
June 25, 1845	June 25, 1845	Cured	August 1, 1845.
May 2, 1846	June 4, 1846	Cured	August 3, 1846.
May 21, 1846	May 21, 1846	Cured	August 7, 1846.
September 11, 1846	September 11, 1846	Died	October 5, 1846.
January 5, 1847	January 5, 1847	Cured	March 9, 1847.
March 28, 1847	March 28, 1847	Cured	May 22, 1847.
June 18, 1847	June 18, 1847	Died	June 26, 1847.
May 11, 1847	June 27, 1847	Cured	October 11, 1847.
July 14, 1847	July 21, 1847	Cured	September 25, 1847.
August 4, 1847	August 4, 1847	Cured	October 18, 1847.
October 7, 1847	October 8, 1847	Died	October 8, 1847.
September 30, 1847	October 25, 1847	Cured	February 3, 1848.
May 23, 1847	October 25, 1847	Cured	March 6, 1848.
September 4, 1847	November 19, 1847	Cured	January 29, 1848.

THE SHOULDER-JOINT.

Date of admission.	Date of operation.	Result.	Date of discharge or death.
October 5, 1839	October 5, 1839	Cured	January 4, 1840.
November 21, 1840	November 21, 1840	Cured	February 2, 1841.
July 21, 1841	October 30, 1841	Cured	December 11, 1841.
December 25, 1841	January 17, 1842	Cured	June 10, 1842.
August 14, 1844	August 14, 1844	Cured	December 30, 1844.
January 30, 1845	January 31, 1845	Died	February 28, 1845.
April 7, 1846	April 7, 1846	Died*	April 16, 1846.
December 11, 1846	December 15, 1846	Died	December 17, 1846.
April 12, 1847	April 17, 1847	Died*	April 24, 1847.

THE ARM.

Date of admission.	Date of operation.	Result.	Date of discharge or death.
May 20, 1839	July 30, 1839	Cured	October 22, 1839.
October 8, 1841	October 8, 1841	Cured	November 29, 1841.
November 16, 1843	November 16, 1843	Cured	April 8, 1844.
January 2, 1844	May 10, 1844	Cured	June 28, 1844.
May 19, 1845	May 19, 1845	Cured	June 22, 1845.
July 21, 1845	July 30, 1845	Cured	September 4, 1845.
September 25, 1845	September 25, 1845	Cured	October 29, 1845.
June 24, 1846	June 24, 1846	Cured	July 21, 1846.
September 29, 1847	September 29, 1847	Cured	October 23, 1847.
October 12, 1847	October 12, 1847	Cured	December 30, 1847.
December 8, 1847	December 9, 1847	Cured	January 17, 1848.

* Died of tetanus.

AMPUTATIONS OF

No.	Name.	Age.	Disease or injury.
1	Joseph Lyle	26	Injury of wrist, 2 years
2	Patrick Madden	22	Injury of hand from explosion
3	Henry Dowling	28	Laceration of hand
4	Edward Mullen	36	Scrofulous disease of wrist, 4 years
5	William Harrison	21	Gunshot wound of hand
6	Thomas Harney	50	Compound fracture
7	E. Latham	63	Carcinoma of hand
8	John Mehill	28	Compound and commin. fract. from machinery
9	John J. Smith	49	Scrofulous disease of hand, 4 months
10	Charles Bradley	46	Laceration of hand
11	James Karsley	52	Phlegmonous erysipelas and sloughing

It will be seen that the whole number of amputations here presented amounts to ninety-one; of which, twenty-six were fatal; making the mortality 28·57 per cent.

Of amputations at the hip-joint there was one, and that fatal.

Of amputations of the thigh, the whole number was thirty-four, of which ten were fatal; making the mortality 26·47 per cent.

At the knee-joint there was one amputation, and that fatal.

Of amputations of the leg, the whole number was twenty-four, of which seven were fatal; making the mortality 29·16 per cent.

Of amputations at the shoulder-joint, the whole number was nine; of which four were fatal; making the mortality 44·44 per cent.

Of amputations of the arm, the whole number was eleven, of which none were fatal.

Of amputations of the forearm, the whole number was thirteen; of which three were fatal; making the mortality 23·07 per cent.

So that we have sixty amputations of the lower extremity; of which nineteen were fatal; making the mortality 31·66 per cent.

While of thirty-three amputations of the upper extremity, seven were fatal; making the mortality 21·21 per cent.

With regard to the methods employed in these various operations, the reports of the cases do not, in every instance, specify the method; but in forty-nine cases, (the whole number in which it is specified,) twenty-four were performed by double-flap operation, and twenty-five by circular operation. Of the first number, four were fatal; making the mortality 17·66 per cent. Of the last, three; making the mortality 12 per cent.

Of the double-flap operations, there were fifteen of the thigh, of which two were fatal; three of the leg, of which one was fatal; four of the arm and one of the forearm, of which none were fatal.

Of the twenty-five circular operations, six were of the thigh, of which none were fatal; fifteen were of the leg, of which three were fatal; three were of the arm, and one of the forearm, of which none were fatal.

THE FOREARM.

Date of admission.	Date of operation.	Result.	Date of discharge or death.
January 29, 1839	February 13, 1839	Died	June 22, 1839.
July 4, 1839	July 4, 1839	Cured	July 29, 1839.
July 15, 1839	July 15, 1839	Cured	August 31, 1839.
October 20, 1841	October 23, 1841	Died	December 20, 1841.
April 10, 1844	April 10, 1844	Cured	May 10, 1844.
June 3, 1844	June 3, 1844	Cured	September 5, 1844.
January 10, 1845	January 17, 1845	Cured	February 26, 1845.
May 26, 1845	May 26, 1845	Cured	June 17, 1845.
April 15, 1845	June 17, 1845	Died	July 14, 1845.
September 26, 1845	November 15, 1845	Cured	January 1, 1846.
January 18, 1847	February 27, 1847	Cured	April 26, 1847.

Secondary hemorrhage occurred in only one of these forty-nine cases, and in that, it occurred twice.

There were, in the whole number, two other cases, making, in all, three cases of secondary hemorrhage. The greater mortality of the flap operation may, perhaps, be attributed to the greater proportion of thigh amputations performed in that manner.

As to the question, whether primary or secondary amputation is preferable, it is evident, that an equal number of similar cases should be selected from each class, in order to institute anything like a just comparison. It is customary at the New York Hospital, when amputation is demanded after severe injuries, to operate before the accession of inflammatory action. So that, strictly speaking, the occasions for secondary amputations will be comparatively rare.

Of the whole number of amputations, sixty-two were the result of injuries, and were fatal in nineteen cases; making the mortality 30·64 per cent.

Of these, thirty-six were primary amputations; of which there were of the hip-joint one, and that fatal; of the thigh, seven, of which four were fatal; of the leg, twelve, of which five were fatal; of the arm, seven, and of the forearm, five, of which none were fatal. Making the mortality 27·77.

The remaining twenty-six amputations may all be said to have resulted from injuries of a more or less severe character; but, as will be seen, they were performed at very different periods after the original injury.

Of this number, eleven were amputations of the thigh, of which three were fatal. At the knee-joint, one, which was fatal; of the leg, seven, of which one was fatal. At the shoulder-joint, five, of which three were fatal; of the arm, one, and of the forearm, one, of which neither was fatal; making the mortality 30·76 per cent.

The number of operations for various chronic affections was twenty-nine, of which six were fatal. Of the thigh there were eighteen, of which four were fatal. Of the leg, five, of which none were fatal; of the arm,

three, of which none were fatal; of the forearm, four, of which two were fatal. Making the mortality 20·67 per cent.

The ages of the patients operated upon were as follows:—

Under	10 years of age,	4, of whom	1 died.
Between	10 and 20,	11,	" 1 "
"	20 and 30,	32,	" 12 "
"	30 and 40,	21,	" 5 "
"	40 and 50,	11,	" 4 "
"	50 and 60,	9,	" 2 "
"	60 and 70,	2,	" 0 "
"	70 and 80,	1,	" 1 "
		91	26

The whole number of females was 9, of whom 3 died.

Of the minor operations upon the lower extremity, during the same period of time, the following is a statement. There have been two partial amputations of the foot, through the articulation of the tarsus, and two through the metatarsal bones. In one of the latter cases, amputation through the whole five metatarsal bones was performed. In another, it was done through the first metatarsal bone. Disarticulation of the great toe was performed in thirteen instances; and amputation through one of the phalanges in two instances; of which operations in the great toe, ten were for frost-bites, and the others for injuries of various kinds. Disarticulation of one of the lesser toes in six instances, and through the phalanges in four; of which seven were for frost-bites, and three for injuries of various kinds.

Upon the upper extremity, amputation at the first carpo-metacarpal articulation in two instances, and, in one instance, the second and third; in another, the third and fourth; in another, the third, fourth and fifth; and in another, the fifth metacarpal bones were removed at this articulation. The thumb was amputated at the metacarpo-phalangeal articulation, in five instances; through the first phalanx in one, and at the phalangeal articulation in one instance. One patient had amputation performed through three of the metacarpal bones of the fingers; another, through two, and three others, each through one of those bones. Amputation of the finger was performed at the metacarpo-phalangeal articulation in twenty instances; through the first phalanx in one instance; at the first phalangeal articulation in five instances; through the second phalanx in one; at the second phalangeal articulation in five instances, and through the last phalanx in one instance. Seventeen of these operations were for gun-shot wounds. None of the minor operations, upon either extremity, proved fatal.

Such being the facts in regard to the mortality of these operations, a word concerning the causes which have produced it. Mr. Phillips attributes the increased mortality in the city of London to the greater number of rail-road accidents that have happened within a few years past, and the same cause has undoubtedly produced a similar effect here. It will be

readily admitted, that this class of accidents presents some of the most formidable, or even desperate cases in which amputation is ever demanded. In these cases the injury on account of which the operation is indicated, is most commonly attended with others of a serious character. Such patients, also, are not only very frequently without surgical attendance for many hours, and even for days, but are subjected to the additional hazard of transportation from a very considerable distance. Under this head might also be included a similar, and not uncommon class of accidents occurring at the landings of ferries. Making a distinct class of these injuries, it will be found that thirteen of the capital amputations above mentioned, were the result of such casualties, and no less than six of them unsuccessful.

Another class of accidents, which presents equally desperate cases, is that of extensive burns. Every one is aware of the great mortality which attends these accidents, where a great extent of surface is involved. Six amputations were performed for this cause. Two of the patients were males, and four were females; of which number three females died. Here, then, are two classes of amputations, in each of which, the mortality is nearly fifty per cent.

Two patients died of phthisis, after amputation of the forearm had been performed, for scrofulous disease of long standing. Two patients died of tetanus, one upon the ninth, and the other upon the seventh day, after amputation at the shoulder joint.

Four amputations were performed for malignant disease; of this number, three were so far cured, as to leave the hospital with a fair chance of relieve for some time longer. One case was fatal; the disease in that instance attacking the lungs after the patient had so far recovered from the amputation, as to be up, and about his ward. In the successful cases, the recovery seems to have been very rapid.

Fourteen amputations of the thigh were performed for disease of the knee-joint. Only two of these cases were fatal; the patients in both instances, being black men. Including those just mentioned, four of the patients operated upon were blacks, and of these, three died;—a fact which, so far as it goes, tends to corroborate the common impression that amputation, or any severe operation, is not as well borne by blacks, as by whites.

By far the most common cause of the minor operations upon the upper extremity, was gunshot wounds, and upon the lower extremity, exposure to cold.

On the whole, then, though the mortality after capital operations of this class appears at first sight very great, it is impossible to avoid the conclusion that this result occurs rather *in spite*, than *on account*, of the operation itself. To adopt a contrary opinion, would be as rational as to condemn any agent in the materia medica proper, on account of the mortality which might happen, at any period after its administration.

The results obtained above, are similar in character to those presented

by Drs. Norris and Hayward, in their respective papers upon this subject. In some particulars, they are less favourable than theirs, in others more so; accurate estimates, however, can only be formed from a large number of cases.

It would have been interesting, if those gentlemen had made separate classes of the amputations at the different joints, so as to show their comparative danger.

The very great mortality attending this class of operations in the Parisian hospitals, renders such information particularly desirable. Dr. Norris, however, mentions seven amputations "at the joints," of which four were cured, and three died. He has given a record of eighty amputations performed upon seventy-nine patients during ten years; while Dr. Hayward has reported seventy amputations performed upon sixty-seven patients during about eighteen years. So that we have an aggregate of two hundred and forty-one operations performed on two hundred and thirty-seven patients in civil hospitals in the United States, and under circumstances as nearly similar as we could expect to obtain. A brief summary of these data with regard to two or three of the more important points, is herewith presented.

	Philadelphia.	Boston.	N. York.	Total.
Whole number	79	67	91	237
Cured	57	52	65	174
Mortality per cent.	27.84	22.38	28.57	26.58
Upper extremity	32	10	33	75
Cured	27	9	26	62
Mortality	15.62	10.	21.21	12.73
Lower extremity	47	57	60	164
Cured	31	43	41	115
Mortality	34.04	24.55	31.66	29.87
For chronic disease	25	45	29	99
Cured	21	39	23	83
Mortality	16.	13.33	20.68	16.16
For injuries	54	22	62	138
Cured	37	12	43	92
Mortality	31.48	45.45	30.64	33.33

In the foregoing table, it will be seen that the numbers given, are those of the patients operated upon. The comparison might be extended to other points, but it is unnecessary to do so at this time.

The results here shown, are not discreditable to American surgery, as compared with European. Mr. Phillips gives the following, as a statement of the cases collected by him.

In France	203 cases	47 deaths, or	23.10 per cent.
In Germany	109 "	26 "	23.85 "
In America	95 "	24 "	25.26 "
In Great Britain	233 "	54 "	22.66 "

These statistics were obtained from a great variety of sources, by Mr. Phillips. He does not particularize the sources of his information with regard to America. Those in Great Britain were "drawn from a large number of hospitals, and from the *private practice of hospital surgeons*, selections being made, so as to render the result shown, a fair representation of what actually occurs."

Looking at single places, we find that,

For London, the cases amount to 107, and the deaths to 28, or 26.16 per cent.*

For Paris, according to M. Malgaigne, the cases amount to 560, the deaths to 299, or 53.39 per cent.

For three of our principal cities as given above, the cases amount to 237, the deaths to 53, or 26.58 per cent.

ART. III.—*Thoughts and Observations on Congestive Fever.* By
CHARLES E. LAVENDER, M.D., of Selma, Alabama.

IN the following remarks, it is my purpose to be brief and practical; to avoid, as far as possible, theoretical disquisition, and to confine myself mainly, to such facts as have come under my own observation. By congestive fever is understood that form of autumnal disease, wherein the vital force is depressed, by the influence of miasmatic poison, below the point of successful reaction. In consequence of this depression of vital force, the heart is unable to give due circulation to the blood, which consequently becomes congested in the internal organs, and large venous trunks. If the vital energies do not fail in the onset, each succeeding paroxysm adds to this venous congestion, while the struggles of the heart grow fainter and fainter, till they cease altogether, unless, aided by the vigorous reaction of a powerful constitution, or by the use of effective remedies, it is aroused to an effort of such power and continuance, as to resist, and finally to overcome, the downward tendency.

This nomenclature may be significant enough, yet it is by no means free from objection. It sometimes happens that the patient dies in the first paroxysm, without any *febris* at all. At other times, there is a chill or cold stage followed by a state of comparative repose, but little or no reaction, to be succeeded by another and fatal cold stage. Venous congestion also doubtless exists in other forms of fever. This congestion, however, so far

* The apparent discrepancy between the statistics here given, and those of Mr. Phillips before given, results from the fact that, in presenting the general result, he has not confined his attention to the city of London, nor indeed to hospital practice.

from being the seat, or proximate cause of the disease in question, is but an effect of the action of the poison upon the brain and nervous centres. A similar pathological condition may be superinduced by concussion, or other injury done to the brain. It is but a symptom of congestive fever. And could we with equal clearness see the workings of the cerebro-spinal and nervous systems, the motions and uses of their fluids, the degree of their intensity, the momentum with which they circulate, and the obstructions which they encounter, we could then advance another, and more satisfactory step in the investigation of this, as well as other forms of disease. These more obscure, yet vastly more important, vital and pathological phenomena have, unfortunately, been overlooked by many able pathologists, in their researches on the liver and venous congestion. Too much importance has doubtless been attached to the circulation of the blood, to the neglect of the nervous functions. The symptom has been elaborately investigated, while the cause has received comparatively little attention.

A case that has assumed, and for some paroxysms maintained, the character of remittent or intermittent, may suddenly put on a congestive type. An attack, which at first assumed a congestive form, may, after a successful effort at reaction, wear the face of remittent or intermittent, of a mild character.

Many cases in their onset and progress, wear the livery of all three of these types; and might, at different stages, be set down under each of these heads. And sometimes, it would be no easy matter to decide upon the class to which a case properly belongs.

These facts clearly prove congestive fever to be, not a disease *sui generis*, but a form or modification, and that, too, the most violent and alarming, of the effects of miasmatic poison. It should be remembered, however, that congestive cases bear no fixed relative proportion to the number of autumnal fevers. It often happens, that a season passes by with but few well-marked cases of congestive fever, although bilious remittent and intermittent fevers prevail extensively. Such was the case, according to my observation, in the years 1832 and '34, in the valley of the Alabama river. At other times, the number of cases may be comparatively small, but the fever of a decidedly congestive type. Such was the case in the years 1835 and '36, when congestive fever first invaded this valley as an endemic. The years '40 and '41 were similarly marked; the former, which was extremely wet, being very sickly, with but few malignant cases; the latter, which was not so wet, but very hot, not so sickly, but with many more fatal cases. Since that time, no year has passed without congestive fever. It never appears early in the season; rarely before the first of August. The hotter and dryer, the earlier. It continues till after frost.

These facts would indicate that there is some constitutional peculiarity in this miasmatic poison, or in the electric state of the atmosphere, caused

perhaps by long-continued and excessive heat, which gives type and character to the prevailing fevers of the season.

In its premonitories and its access, congestive fever presents but little to distinguish it from an ordinary attack of intermittent. There are more languor, more restlessness, and more debility. It is rarely the case that it makes its attack without a day or two of the ordinary premonitories of autumnal fever. It then approaches in the form of a chill. The patient is restless, and very much oppressed; skin pale and shriveled; extremities cold; features contracted; lips purple; tongue pointed, and of a leaden hue, or pale, cold and clammy; pulse feeble, quick, frequent, irregular, and intermitting; tendons corded; occasional rigors, and sometimes shaking chills, though the patient rarely complains of coldness. There is no acute pain, but a dull heavy aching in the head, back and limbs. Usually there is great thirst, with nausea and vomiting, but these symptoms are not always present. In place of febrile reaction, the surface grows colder, and is bedewed with a cold unnatural perspiration. There is an indescribable sense of restlessness and oppression, the patient remaining but a few seconds in any one position; on rising to his feet, he becomes giddy, staggers, and perhaps falls. He writhes under tormenting heat, calls for ice, desires to be fanned constantly, and to have cold water sprinkled on his face and breast, while his skin is as cold as the marble wet with the morning dew. In some cases, however, there is much morbid heat about the head and chest. A copious sweat suddenly breaks out, and as suddenly disappears; skin becomes motley and bluish, its sensibility impaired, impress of fingers remains some seconds after pressure is removed; sometimes ecchymosis in dependent parts; respiration irregular, with frequent sighing; great anxiety, countenance haggard; eyes suffused; a watery purging is sometimes a dangerous symptom, and hiccough a troublesome attendant. There is usually a most distressing sense of sinking down, and, to the patient himself, a most alarming incubus, or feeling of suffocation; he lies still, it may be for a minute, without breathing, then gasps for breath, makes short and hurried respiration; cries out that he shall die for want of breath; rises, advances hurriedly to the window, staggers, throws himself on another bed, or falls on the floor; the pulse has ceased to flutter at the wrist; a moment's unusual anguish, a gasp or two for breath, the heart ceases to beat, and death closes the scene in six or eight hours from the access, the sufferer retaining his senses to the last. At other times, death approaches under cover of a deep comatose sleep, of several hours' duration. Sometimes, though rarely, the paroxysm closes in convulsions.

The fatal moment is sometimes delayed a few hours by the free use of diffusible stimulants, in which case the patient usually dies comatose. At other times, partial reaction takes place; the skin becomes warm or even hot; extremities remaining cold; pulse may again be counted; from 150 it falls to 120; it may be the patient sleeps for some hours, or dozes on in painful

and interrupted slumbers, to be followed the next twenty-four hours by another paroxysm, terminating in fatal collapse.

It must not be supposed that all cases of congestive fever are alike malignant, or marked by the same alarming symptoms and fatal results. Perfect reaction may terminate the first paroxysm in rapid convalescence. Partial reaction may take place; the next paroxysm may be less violent, and of shorter duration; this may be followed by reaction still more complete, and so on, till perfect innervation is restored, all the congested blood in the system put in motion, all the organs disengorged, with equalization of temperature, and of nervous energy; or the disease may run into well-marked remittent or intermittent. But most commonly, under proper treatment, complete reaction follows the first paroxysm; morbid action is then broken up, congestion removed, innervation restored, and the patient recovers rapidly.

There is scarcely an important organ which may not, during the progress of the disease, become the seat of local congestion. The spleen may become engorged to such an extent in a few hours, as to be found double its natural size. The same, to a less extent, may be said of the liver. Congestion of the lungs is an alarming occurrence, which doubtless always exists, to a greater or less extent, in this form of fever. The great oppression, laborious breathing, heaving of the chest, and sense of suffocation and sinking down, denote such a state. But of all the local congestions that attend upon this form of disease, that of the brain is most alarming, least manageable, and most fatal. It is marked by deep coma, low muttering delirium, rolling of the head on the pillow, a drawing of the head backwards, dilatation of pupils, optic illusions; and if partial reaction takes place, raging delirium may come on.

Unfortunately for young practitioners at the South, their knowledge of this formidable disease is chiefly drawn from the well studied lectures of professors who never met with it in practice, or from the ponderous volumes of writers on general therapeutics, to whom congestive fever is a matter of history. The most unwelcome, and perhaps the most useful, lesson that such a practitioner ever learns, is taught him by the first well-marked cases of this type with which he meets.

That the character of the disease in question, as it makes its appearance in this latitude, may be properly apprehended, I introduce a few cases from my note book, which terminated fatally, without treatment.

CASE I.—B. D., ætat. 16, good health and temperament; experienced a light chill 3d Sept. '41; little reaction; copious perspiration; restless, and very much oppressed.

4/h. Somewhat languid, but no particular complaint.

5/h. Cold stage at 8 A.M.; shivering at intervals, alternating with flashes of heat, for two hours; extremely restless and oppressed; could not be confined in bed; would rise, stagger, and sometimes fall; surface very

cold, but complained of much heat. At 12 o'clock, without febrile reaction; profuse perspiration; at first warm about the head and chest, but soon becoming cold and icy; confusion of intellect; optic illusions; twitching of tendons. In less than an hour, watery purging; low delirium. When I saw him at 3 P.M., he was dying convulsed.

CASE II.—P. D., ætat. 14, brother to the above; a sprightly boy, of good temperament, was attacked on the 7th Sept., two days after the death of his brother; some chilliness, followed by deep sleep and copious sweat, but little, if any, fever; restless night.

8th. Walked about the farm; insisted he was well; took no medicine.

9th. Rose early, dressed, and went out. Came in at seven, with a chill; threw himself on the floor, and went to sleep. In an hour, was sweating profusely; in another was cold, and could not be waked. At 9, his mother became alarmed, and sent for me. When I arrived at 12, the boy had been dead one hour. Although the surface was cold and clammy when he died, two hours afterwards it was dry and of natural warmth. Even the extremities, tips of the nose and ears were warm, and the countenance natural in appearance.

CASE III.—Mr. K. a labouring man, aged 38, 24th July '41, felt some indisposition, restlessness, with sense of impending danger; some rigors, with hot flashes, but no fever.

25th. Somewhat indisposed, but rode four miles to mill, and returned in the afternoon. Passed a very uncomfortable night, tossing in bed, and labouring for breath; at times rising and going to the door; surface cold, but complaining of internal heat.

26th. Felt somewhat better in the morning; but soon the distressing symptoms returned, with increased force. Some shuddering at first; soon became cold, but would not be covered; nor remain long in bed; on rising, would reel, with sense of falling forward; complained of great heat, and went from bed to bed, in search of a cooler place; drank often of cold water, no relief; occasional emesis; cold sweat. When I saw him at 2 P.M., the whole surface was of that peculiar icy coldness, painful to the touch, and damp with clammy sweat; skin pale and shriveled; features shrunken and cadaverous; countenance unnatural, and marked with deep distress; pulse gone from the wrist; heart fluttering rapidly, but feebly; tongue pointed, pale, and cold; breathing laboured, interrupted, and greatly oppressed; breath cold; complained of "burning up;" that he should "die for want of breath;" would not remain half a minute in one position, nor suffer the lightest covering; rose rapidly from bed, staggered to the door, and returned as hastily to bed; spoke rationally; no appearance of delirium. Took quin., camph., ammon., &c.; no perceptible effect. About 3, rose hastily; said he should die if he did not get fresh air; lay down on the floor, remained quietly on his side for a few seconds, perhaps without breathing; turned on his back, exclaimed "I'm gone," and breathed no more.

Cases like these, terminating fatally on the third day, or in the first well-marked paroxysm, often occur, during a season in which "congestive chills" prevail.

Treatment.—In order to arrest a disease like this, tending with such fearful rapidity to a fatal termination, the most prompt, vigorous, and well-

directed treatment is necessary. In this, above all other diseases of a general character, *time* is of the most vital importance. One hour's indecision may prove fatal. With the first three or four hours after the case becomes alarming, all may be lost. And yet, when properly treated, there is no disease to which the physician, who loves his profession, can point with prouder satisfaction.

Blood-letting, which is always a most hazardous operation in this form of disease, if resorted to at all, should be accompanied by the most powerful internal and external stimulants. Brandy, quinine, camphor internally, sinapisms to the spine and epigastrium, and hot applications to the extremities, while a small orifice is made, as I prefer, in the external jugular vein. As the blood runs slowly, the finger should be placed upon the pulse, and its changes carefully noted. If it waver, become more feeble, frequent or intermitting, the vein should be instantly closed. If the pulse increase in force or volume, and not in frequency, the bleeding being serviceable, may be carried to considerable extent. Even then it is more safe to bleed very moderately, and to repeat in an hour or two, if thought advisable, than to make a large bleeding at once. For it will sometimes happen that the pulse maintains its force and volume through the operation, and even for some time afterwards, and then suddenly sinks, perhaps to rise no more.

In case *second*, two hours after death, I found the jugulars very much distended, one of which was opened, and a pint of black blood discharged. This blood was evidently regurgitated, and was with difficulty restrained by means of an adhesive strip, the urgency of my engagements at the time, preventing a more extended observation. On the following day, occurred

CASE IV.—H. S., ætat. 18, after a day or two of the usual premonitories, at 10 A. M., Sept. 10th, 1841, became cold, restless, oppressed, with occasional rigors; could not be confined to his room; lay a few minutes in one bed, and then hurried to another. Extremities cold to the body, but some morbid heat about the head and chest. Was put into the warm bath, fainted, and was with some difficulty restored. Saw him at 6 P. M. Pulse barely perceptible at the wrist, 150, deep seated, thready and intermitting; skin very cold, but much complaint of heat, and sense of suffocation; frequent sighing, and interrupted respiration; remains but a minute in one position, and will not be covered; some watery purging; countenance pale, shriveled, and anxious; eyes suffused and watery; intellect good. Ordered, immediately, brandy, camph. and laud., with frictions of dry mustard. Was preparing sinapisms, when the attendants cried out "he is dead." On approaching the bed, found him motionless and pulseless; breathing had ceased, and no motion could be felt over the region of the heart; jugulars much distended. With the case of the day before fresh in my mind, I instantly opened a jugular vein, which bled freely. In about one minute after the blood began to flow, the patient breathed, and the pulsations of the heart were again manifest. Sinapisms, lotions, frictions. Brandy and water, almost thickened with quinine and camphor, thrown into the stomach. In ten minutes he breathed freely, and swallowed with-

out difficulty. In twenty minutes, he spoke rationally, and took readily whatever was offered to him; pulse could be counted at the wrist, 150. For some hours he rested well, and hopes were entertained of successful reaction. He sunk eight hours after the bleeding.

CASE V.—Sancho, a coloured man, ætat. 35, taken on the 4th Sept. '42, without any premonitory symptoms, and soon sunk into collapse. Saw him at 10 P. M., 8 hours after access. Insensible; low muttering delirium, and rolling on the floor, but now quiet; eyes fixed; pulse a mere flutter; breathing laborious and rattling; supposed to be dying.

The brain appearing to be the seat of congestion, he having been insensible from the access, opened a temporal artery; bled imperfectly; opened a jugular; bled freely, at intervals, for an hour or two, with marked improvement of symptoms—about $f\overline{3}xx$; rubbed all over with spts. capsicum and mustard; cold dash to head, sinapisms to feet; stim. enemata; spts. quin., camph. liberally. In the course of 12 hours, one drachm calomel had established free secretion from the liver and bowels; reaction took place; a common remittent followed, which yielded to ordinary remedies.

Although a few cases like the above, have induced me favourably to regard bleeding from the jugular vein, in desperate cases of congestive fever, or in which congestion of the brain exists, yet am I compelled to regard the use of the lancet, in this malignant form of miasmatic disease, as a most hazardous and often fatal practice.

During the progress of reaction from a congestive chill, inflammation of the stomach, liver, or other important organ, sometimes makes its appearance, accompanied by fever of high excitement, as a sequela of the engorgement of these organs. Such cases may require topical, and if the inflammatory symptoms run high, general blood-letting. But while the distinctive symptoms of congestion remain, while there are great restlessness and oppression, quick, intermitting or compressible pulse, laborious breathing, especially if there is no congestion of the brain—the lancet should not, for a moment, be thought of. Even where the symptoms have, in a measure, given way, and reaction been partially established; when the heat becomes equalized, oppression alleviated, pulse full, and slightly resisting—even then, a small bleeding may, and a large one will, almost inevitably, bring on a rapid and fatal collapse.

There is yet another condition that deserves marked attention, because it is so likely to betray the young practitioner into the use of the lancet. It is when a congestive attack has yielded to the influence of quinine; reaction appears to be complete, natural temperature is restored to the surface, pulse becomes full and flowing, with a peculiar swell under the finger, and slight sensation of resistance. At the same time there is a feeling of restlessness and apprehension; dull headache, with fullness of superficial veins. The patient complains of oppression, and often requests to be bled. Open a vein, and the blood flows freely, looks dark and thick. When eight or twelve ounces have been drawn, the bleeding suddenly

stops, the venous fullness has left the surface, which becomes pale and shrunken; the pulse quick and thread-like; an indescribable sense of sinking comes over the patient; he cannot be controlled, but tosses in bed, or rises to his feet and falls. In a few hours death closes the scene. At other times you may bleed freely, in such cases as the above, with relief to the head, and no perceptible ill effects for one or two hours after the bleeding, and when you begin to congratulate yourself upon your success, the patient becomes faint, nausea and vomiting follow, and a few hours may close the scene.

In this latitude, fevers of any kind do not bear the lancet well. Congestive fever does not make its appearance till the system is greatly weakened by long-continued and excessive heat. When it has made its attack, the vital force is very much exhausted, and the patient is fast falling into collapse. In such a case as this, I would earnestly say to my young professional brethren—Beware of the lancet! Be assured, without proving by sad experience, that the lancet, instead of being “the anchor of hope,” is, emphatically, the sickle of death in congestive fever.

Emetics are decidedly hurtful in congestive fever, unless it be to unload the stomach at the onset, and this nature rarely leaves for the physician to do. When necessary, mustard, or ipecacuanha in an infusion of capsicum, is to be preferred. In most cases, irritability of stomach is a most troublesome symptom, which emetics tend to excite and to aggravate, rather than to allay. Nothing, perhaps, except the lancet, is more effectual in driving into hopeless collapse a case of congestive fever than an emetic, and especially an antimonial one.

Cathartics of a drastic or hydragogue character, are scarcely less objectionable than emetics. The very worst consequences may always be expected from their use. Collapse, fatal, if not speedily remedied, is often the consequence of an active cathartic. This fact, and the treatment necessary to insure reaction, may be more clearly illustrated by an example.

CASE VI.—Mr. L., planter, æt. 40, had chills, followed by some fever; with dull headache, inability to walk without reeling, and sense of falling forward. Before the third paroxysm, took a dose of jalap and crem. tart., which operated copiously. In a few hours, chill came on; no reaction; purging still continued. Spent a restless night.

Sept. 19th, 1842. Saw him at 9 A. M., day after the cathartic. Catharsis still continued; surface cold and damp as marble in the morning dew, yet complaining of intolerable heat; pulseless at wrist; great anxiety; cannot rest a minute in any position; will not suffer the lightest covering; great thirst—drinks and rejects; delirious, pulling at the bed, and catching at the air; will not allow himself rubbed; tears off all applications; capillaries congested; surface purple.

Gave at once 40 drops of laudanum, 10 grs. sulph. quin., 2 grs. g. camph. in brandy and water. Cold affusions. Repeated the quin. and camph. in one hour, afterwards, every two hours. Catharsis and emesis ceased; skin

soon became warm, and resumed its proper colour; pulse returned to the wrist. In six hours, he was restored to his proper senses, and a calm sleep followed. He was kept fully under the influence of the quinine, about 2 grs. per hour, for forty-eight hours, when a mild laxative of rhubarb and magnesia completed the treatment. No chill or fever followed.

And yet, cathartics of a proper character are valuable in congestive fever, and in some cases indispensable. If the patient, after the first paroxysm, be put promptly under the influence of quinine, and so continued for forty-eight hours, or until the time for a second paroxysm has been passed in safety, a mild cathartic or two will complete the cure. But when two or three paroxysms have elapsed—when the viscera become engorged with blood, secretions vitiated or suppressed, tongue furred—in these cases, more active cathartics are necessary. Everything, however, depends upon the character of the cathartic, and the manner of its operation. While a dose of active medicine, causing free watery purging, would, if uncontrolled, be attended with dangerous, if not fatal consequences, that remedy which acts upon the liver in the production of dark, consistent bilious operations, is full of hope. In the fulfilment of this important indication, nothing is so much to be relied upon as a mercurial. Let this secretion be established by the use of calomel, or blue mass, and milder means, as rhubarb and magnesia, may be substituted.

Quinine is fully proved by experience to be the *great remedy*, in all cases of marked periodicity, and emphatically so in *congestive chills*. At what time it should be administered, is no longer a question. No time should be wasted in useless efforts to prepare the system for its reception. The patient should be put promptly under its influence, and continued under it until all fear of a congestive chill has passed. What quantity should be given is not now so important a question as it was once held to be. The effect is a vastly more important consideration than the amount of the remedy necessary to secure that effect. Five grains will do as much in one case, as twenty in another. In the same case, five grains will effect as much at one time, as twenty grains at another time. Miasm is a poison that acts by depressing the vital force; but as a given amount of miasm will not produce the same degree of prostration in all persons who are subjected to its influence, so will not the same dose of quinine be attended with similar results in all cases. The quantity must be proportioned to the susceptibility of the nervous centres to be acted upon, the aptitude of the vital telegraph to convey the impression, and the venous and nervous congestion to be overcome.

When a well-marked case of congestive fever, or one of a doubtful character, presents itself, five, ten, or, if it be an urgent case, twenty grains of quinine ought to be administered at once, and repeated every hour or two, till its characteristic effects are manifest. This being done, the pulse becomes more firm, and somewhat flowing, with a peculiar swell, regular,

and twenty or thirty beats in the minute less frequent; the tongue becomes moist, and less pointed; skin dry and warm, or, if there has been morbid heat, the surface becomes preternaturally cool, the intolerable inward heat and oppression greatly mitigated, headache and restlessness in a measure removed; patient becomes calm, and perhaps sleeps. When the system comes fully under the influence of the remedy, its peculiar action on the brain is made known by a sense of fullness and ringing, or roaring, in the ears. This state of things being superinduced, two or three grains per hour, or four grains every four hours, will be sufficient, in most cases, to guard the patient against another paroxysm. An hour or two, however, before the chill is anticipated, a larger dose should be administered. Much care ought to be taken that the effects of the remedy be not suffered to expire, till all fear of a chill has passed. If general reaction be established, breathing free, circulation vigorous, sensorium undisturbed, little danger need be apprehended, for the case is safely under the control of the remedy. If the hour at which the previous chill occurred, be safely passed the following day, there is strong hope that no other paroxysm will follow. And if the same hour be passed the third day, in safety, that hope becomes confirmed. A mild cathartic, and a few more grains of quinine, will complete the cure.

It sometimes happens that quinine causes an almost uncontrollable irritability of the stomach, and at other times, a very disagreeable fullness of the brain, and ringing in the ears, seeming to spend its force upon the brain, without influencing the circulation. In the former case, I usually add $\frac{1}{8}$ gr. of morphia, and in the latter, a grain or two of ipecac. In cases where quinine seemed inadmissible, I have substituted, with happy consequences, a combination of camphor and opium, with a small portion of ipecac., in brandy, if the stomach will bear it. I seldom risk the case with a single remedy, but prefer the following combination: R.—S. quinin. grs. iv; g. camph. grs. ij; pulv. ipecac. gr. ss; g. opi. gr. $\frac{1}{4}$, to be taken every two hours; varying the proportions, of course, to suit the case.

When taken in large doses, by a person in health, quinine increases the frequency of the pulse eight or ten beats in the minute, augments its volume, and gives to it a peculiar and somewhat resisting swell, not readily mistaken by one accustomed to it. Give one or two grains to a man in open fever, and you add to the excitement, and sometimes bring on headache and slight delirium, as I have seen. Give ten grains in such case, and you allay febrile excitement, have a full, flowing, quinine pulse, cool, moist skin, sensorium clear, and no complaint of heat or thirst. This is one of the great peculiarities of this medicine. Give ten or twenty grains to a patient in congestive chill, or in that stage when a feeble effort is being made at reaction, and in an hour or two, the pulse will be found *lessened* in frequency twenty or more beats in the minute, but much *increased* in force

and volume ; with abatement of all the urgent symptoms. The good effects of a single dose will sometimes be felt for twenty-four hours, or longer ; and in some cases, no repetition of the remedy will be found necessary. Instances similar to the following abound in my note-book.

CASE VII.—Dr. H., æt. 35, full habit, good temperament, had been for some days labouring under remittent fever, which had assumed a congestive character. A crisis was approaching about 6 P.M. Had been taking calomel 20 grs., s. quin. 5 grs., g. camph. 2 grs., every two hours through the day, with no sensible effect ; sinking hourly. Met his attending physician, who had been with him all day, and who was so fully convinced that the patient must die, that he would not return with me.

Found him, at 6 P.M., covered with a cold, clammy sweat ; extremities cold to the body ; some morbid heat about the chest ; pulse a mere flutter, not to be counted ; skin purple ; impression of the finger remains a minute or more ; great restlessness ; oppressed and laborious breathing ; tongue furred, leaden colour, pointed and clammy ; intellect somewhat wandering. Mixed 20 grs. quin. in half a tumbler of brandy and water. On being raised from his pillow, made a hasty and rather convulsive effort to swallow, spilled one-half, rejected what he had swallowed, and fell back, exhausted. Having in my hand another portion of twenty grains, put it into the tumbler, which still held some grains of the first, and gave it all, with some difficulty, in cold water.

In twenty minutes, the circulation was under the influence of the quinine, and the pulse, in a few hours, became distinct. For thirty-six hours, the peculiar effects of quinine, a swelling pulse, with tingling in the ears, continued, although not another grain was given. One hour after the quinine, the patient swallowed 100 grs. cal., which dose was repeated in three hours. Before morning, black bile was discharged freely, and the urgent symptoms gave way. Some days of fever, of a remittent type, followed, which yielded to the usual treatment.

I am by no means persuaded that quinine is a harmless agent, and may be given, in almost any quantity, without producing hurtful consequences. When pushed too far, painful fullness of the brain, alarming sounds, and ringing in the ears, deafness, slight delirium, twitching of tendons and hic-cough, will be some of the consequences. Caution must, therefore, be exercised, not to push this valuable remedy too far. Overwork the brain, and the vital powers may become exhausted by too long-continued and excessive action. In this way, I have no doubt, frequently repeated heroic doses of quinine exhaust the vital powers, cause indirect debility, and thus hasten that very collapse which quinine, judiciously administered, is so well calculated to avert.

In like manner, brandy, and other stimulants, though valuable in supporting the vital force, and preventing collapse, or in arousing the system from that state, and for such purposes, may be given in large quantities ; yet may they be pushed too far, or be continued too long, and thereby aid in producing that condition which they were intended to prevent. They are useful, and may be given liberally, while they act in harmony with the

system, quiet the stomach, soothe the brain, and invigorate the circulation. But if they cause nausea, pain in the stomach, headache, or symptoms of intoxication, they should be used more cautiously, or be discontinued altogether. A patient who may have borne a pint of brandy in twelve hours before reaction, may not bear an ounce afterwards. The same observation is applicable to quinine. Although twenty grains of the sulphate may have been taken, with the most decided benefit, in a case of collapse, or in a case of congestive chill threatening collapse, yet, when reaction has been established, one grain may be sufficient, and even that not always required, and sometimes hurtful.

Calomel, as has been observed, is often useful, and sometimes indispensable. If, by the timely exhibition of quinine, congestion be broken up, and reaction fully restored at an early stage of the attack, little further treatment will be needed. But when reaction is incomplete, with vitiated or suspended secretions, calomel should be given, so as to act upon the secreting organs, and chiefly upon the liver. Let this action be made known by the appearance of dark vitiated bile; let it be continued by moderate doses of calomel, or rhubarb and blue mass, till the secretions become healthy, and the patient is safe. Let the vital force be sustained by the use of quinine, and if there be not congestion of the brain when the bile begins to flow, the danger is passed. At least, I never saw a case that did not, under such circumstances, recover. The dose of calomel is to be decided by the necessities of the case. In a majority of cases, 10 grs. every two or three hours will be sufficient. R.—Calomel grs. x; quin. grs. v; ipecac. gr. j; morph. gr. $\frac{1}{4}$; pil. hydrarg. q. s. Ft. pil. sum. quart. hs.

In many cases, quinine cannot, for a moment, be retained on the stomach. Roll it in blue mass, and the difficulty is sometimes obviated. Administer largely per enema. Draw a blister speedily, and dress it with quinine. The system may be brought under its influence, and the patient saved.

But quinine, like all other remedies, will sometimes fail us. Twenty, forty, or one hundred grains may have been taken. Its action on the brain may be apparent. Strange sounds distract the ears. The patient may imagine himself in a thunder-storm, with lightnings flashing in his closed eyes, and burning in his brain, and still be sinking all the time.—The remedy, pushed too far, is doing mischief. Failing to counteract the disease, it has attacked the vital organs, and is prostrating still further the vital force. A grain of morphine will not give a moment's rest. Diffusible stimuli only add fuel to the flame that burns within, and are immediately rejected. Rubefacients have been used till the skin is sore; and the capillary vessels congested till the surface is purple. The patient rolls from side to side, and throws his limbs in every direction; calls for ice or cold water, which is rejected as soon as swallowed; calls upon the attendants to fan him, and to sprinkle water on his face, to save him from dying.

What, under these alarming circumstances, is to be done? I know of nothing better—and *the emergency has often presented itself to me*, in all its fearful realities—I know of nothing better than large doses of calomel, repeated every two hours till a decided impression is made; accompanied, at the same time, with the cold dash, or cold affusions. The case, as supposed, though alarming, is not altogether hopeless. A large dose of calomel, when swallowed, will be retained. These doses do not, in such cases, purge actively. So soon as their influence is felt upon the system, the patient becomes more quiet, complains less of heat; while the surface becomes warmer, heat more generally diffused, pulse stronger and less frequent. Free hepatic secretion is concomitant with, or soon follows, this state of things. Much smaller doses, or milder means, may be sufficient to keep up this action. Let this be done, and, with ordinary prudence, the patient will recover.

Ptyalism I do not regard with favour. Salivation will not arrest a congestive chill, as I have experienced in my own case.

Rubefacients, sinapisms, lotions, spts. turpentine, should be promptly and perseveringly applied to spine, epigastrium and extremities. If the patient will suffer no applications, rub him well with dry mustard, or spirits and capsicum, or spts. turpentine. If he will lie on his back, apply a sinapism, or flannel roller wet with spts. turpentine, the full length of the spine. The following case may serve, among other purposes, to show the value of persevering in the use of external means.

CASE VIII.—D. S., æt. 8, cold stage, P. M., 8th Sept., 1841, followed by high excitement, which soon, and suddenly, ceased, and he became cold and pulseless. Stimulants were resorted to.

9th. Saw him at 2 A. M., for the first time. Pulse thread-like and irregular, 130 to 140; tongue dry, pointed, leaden hue, red edges; delirium; muttering; distress; skin cold and clammy; some morbid heat in the head; great thirst; rejects everything that is swallowed; remains but a few seconds in one position. On moving from side to back, or vice versâ, breathes six or eight times, hurried, half-inspirations; ceases to breathe from eight to twelve seconds, then draws a long inspiration, mutters, or calls out incoherently, and changes position. R.—Statim, cal. grs. xx.; quin. grs. ij; g. camph. gr. j. Sinapisms, frictions.—Calomel grs. v; quin. gr. j; camph. gr. ss; carb. ammon. gr. ss; 2 hs.

4 P. M. Worse. Pulse fluttering, and too indistinct to be counted; sub. tend. singult. picking at the bedclothes, apparently moribund. Gave morph. gr. $\frac{1}{8}$ in brandy. Rub him all over with hot medicated spirits, and spts. turpentine, and apply mustard poultices to extremities and epigastrium. R.—Cal. grs. xx; ipecac. gr. j; morph. gr. $\frac{1}{8}$; mass. hydrarg. q. s. Ft. pil. sum. quart. hs.—Camph. quin., C. ammon., āā gr. i; sum. uterq. horâ. Cold dash, and cold applications to head. Warm bath, fainted; restored with difficulty.

10th. 8 A. M. Has not rested five minutes through the night. No improvement in any of the symptoms; low delirium, mutters, and occasionally cries out. Cadaverous look and smell. Sponge him all over with the medicated spts., and envelop him bodily in a strong mustard poultice. Continue treat-

ment. 6 P. M. Sleeping. Several discharges of black bile; feet warm, but hands and arms cold, though not so damp; pulse 130, regular; tongue moist; respiration 30, regular. Slept one hour; the first rest for as much as five minutes, for 48 hours. R.—Compound cal. pil. every 4 hs., and comp. quin. pil. every 2 hs. Continue poultice.

11th. 8 A. M. Rested. Slept 2 hours; warm; pulse 120, regular, more soft and full; tongue moist and furred; slight ptialism. Four free discharges of black bile. R.—Pil. rhei., chicken water, rice water. 12th. Much better. Dark bilious matter copious. Continue treat. 13th. Convalescent.

Anodynes are peculiarly serviceable in this form of fever. Opiates are best; and no article of this class can give more satisfaction than the salts of morphium. In easing pain, in quieting intolerable restlessness and anxiety, in mitigating bodily and mental anguish, in superinducing temporary forgetfulness of suffering and danger, in soothing nervous irritability, in allaying spasm, and thereby removing impediments to reaction, and thus promoting secretion, morphium has no rival, and may justly be called "the divine remedy." A compound of ipecac. gr. j, s. morph. gr. $\frac{1}{3}$, given with calomel, promotes its action; with quinine, it is peculiarly useful in obviating, or in mitigating the unpleasant effects of that remedy on the brain and nervous system. There are but few cases of congestive fever which are not, at some period of their progress, largely benefited by the use of morphine. Where continued irritability of stomach exists, it may be introduced by enema, or used endermically. Care should be taken that an over-dose be not administered, in this way, as I have seen one grain, applied to a recently blistered surface, cause decidedly narcotic effects.

Cool acidulated drinks, ice water, lumps of ice, juice of acid and sub-acid fruits, as lemons, oranges, pomegranates and grapes, are very useful in allaying thirst and mitigating internal heat.

The Cold Dash, or cold bath, as a remedy in this fever, yet remains to be noticed. In miasmatic fevers of high excitement, especially where there is much determination to the head, there can be but little doubt of the good effects of the cold bath. But in fevers of a congestive type, where the extremities are cold, its propriety becomes more questionable. In these cases, I make the feelings of the patient my criterion. If I find morbid heat about the head and chest—if cool drinks are grateful to the stomach, and cold applications cause a pleasant sensation, I use the cold bath or cold effusions freely. But where they cause, as they sometimes do, a disagreeable chilly feeling, I continue hot applications and frictions.

Having decided upon the use of the cold bath, if the patient is able to sit up, he is placed over a large vessel, with his feet in water as hot as he can well bear it, and cold water poured freely over his body, till he complains of feeling cool. If not able to sit up, he is placed on a mattress, or on thick blankets, warm applications are made to his feet, and cold water poured freely and steadily over his body for five minutes or more. Nothing can be more refreshing. On being replaced in dry sheets, he rests more

quietly, and sometimes sleeps; perhaps a healthful glow appears on the surface, and his condition is favourable for the action of medicine. In obstinate cases, to secure the good effects of the cold bath, it must be frequently repeated; or the patient may be for some time enveloped in sheets wrung out of cold water.

CASE IX.—Mary J., æt. 14, bilious-nervous temperment, after some days of languor and oppression, with some chilliness, was attacked on the 7th Aug. '47; cold, but complained of great heat. Dark green matter by catharsis, yellow by emesis. Was raised in bed, fainted, and continued extremely faint, and much oppressed in breathing, with nausea.

5 o'clock P. M. Pulse thread-like, one hundred and eighty to the minute, at times not to be felt at the wrist: tongue clammy, leaden centre, pale edges; skin cold and damp; complains of heat; frequent rolling of head and tossing of limbs; dullness of seeing and hearing; intellect dull. R.—Statin, s. quin. grs. v; s. morph. gr. $\frac{1}{4}$; g. camph. gr. j; frictions, sinapisms. R.—Quin. grs. iv; camp. gr. j, every hour; cal. grs. iv; ipecac. gr. j; morph. gr. $\frac{1}{4}$, every 4 hours.

8th. A. M. Passed a restless night. Pulse 160, otherwise as before; no action on bowels; nausea subsided; tongue dry; skin soft and natural; pupils dilated; dullness of senses and restlessness as before; respiration oppressed and irregular—4 to 6 half inspirations, and then a full one, at which the patient opens her eyes wide, and changes position. R.—Quin. grs. v, camph. gr. i, every two hours. Calomel and camph. as before. Sinapisms, frictions.

P. M. No marked alteration. Continue treatment.

Ecchymosis in all the dependent surface, from head to foot. Back, thighs, &c., of dark blue ground, with black splotches covering near half the surface. Frictions, spts. turpentine, and ess. oils.

9th. Passed a restless night. Slight delirium. No abatement or alteration worth noting. Continue treatment. P. M. Considerable excitement. Pulse of more force, but irregular, 144; breathing much oppressed. Skin dry and very hot—so much so as to be painful to the touch. Tongue and fauces dry, much thirst; no action on bowels; cannot rest two minutes in one position. Cold applications grateful. *Cold bath*, by placing the patient in sheets that had been dipped in cold spring water, and covering well with blankets; hot applications to the feet; considerable shock. At first, respiration short and interrupted; in ten minutes, patient became composed; in fifteen minutes, slept calmly; respiration regular and free, 22; pulse more distinct and regular, 120. Repeated affusions. Slept 30 minutes. Remained in bath 90 minutes. Complained of feeling cool; surface still warm. Wiped with warm towels, and put in dry sheets. Felt more comfortable, and rested better. R.—Cal. gr. x, spts. nitre. One hour after the bathing, perspiration general and warm. Rested tolerably well through the night.

10th. Pulse 120, full and regular; tongue moist; senses normal; some bilious stools—5 through the day. R.—Quin. grs. iv, every 4 hours. Rhu-barb and magnesia in small doses.

11th. Slept two hours at a time through the night. Three stools of bilious character; pulse 95, full and regular; skin warm and moist; tongue nearly clean; *ecchymosis* red, absorption going on. R.—Quin. grs. iv every 6 hs. magnes. nocte.

12th. Convalescent; ecchymosis disappearing; soreness in the limbs, and along the large muscles; secretions free and nearly normal. Convalescence rapid. No ptyalism.

The *cold dash* in cases of collapse, and in congestive fever falling into that state, is a bolder practice. In such cases, it appears to act revulsively, through the capillary nerves, on the brain and ganglionic system, arousing them to renewed action, as in case of catalepsy. Be this as it may, I have often had recourse to its use, and have in no instance had cause to regret the practice. It aids powerfully in arousing capillary circulation, in equalizing heat, in quenching the fire that burns within, and restoring warmth to the surface. I offer a case by way of illustration.

CASE X. Esther, a coloured woman, aged 35; chill 7th Aug. '40; little or no reaction; great restlessness; copious sweat. As most of the family were down with fever, and not enough well to wait on the sick, no further note was taken of this woman, till I found her, on the 9th, collapsed, cold, clammy, pulseless, delirious, rolling on the floor; tongue pale and pointed; respiration hurried and laborious. Gave with some difficulty, twenty grains of quinine. Had her laid on boards, and ten gallons of cold spring water poured over her in about five minutes, then rolled in dry blankets. In half an hour, there were decided symptoms of reaction. In four hours, the quinine and cold dash were repeated; in four hours more, warmth was restored to the surface; pulse 108; resting well. R.—Quin. grs. iv; camph. gr. j; ipecac. gr. ss, m. sum. 2 hs. Kept the patient under the influence of the quinine for 48 hours, when a small dose of rhubarb and magnesia completed the treatment. No return of chill or fever.

Whether or not the cold dash in such cases as the above, unaided and alone, would bring about successful reaction, must be decided by a bolder practitioner than I am, while I hold in my hand such a remedy as quinine. I have found nothing more effectual in arousing the circulation in cases of collapse; for which purpose it may be again and again repeated. Especially is the cold dash serviceable in cases attended with great irritability of stomach, or where quinine determines too powerfully to the brain, or where there is much morbid heat about the head and chest. In such cases, it acts more promptly, and perhaps more vigorously, than hot applications. Nor are they at all incompatible with each other. Nor is the cold dash incompatible with the vigorous use of calomel. On the contrary, it promotes the action of that remedy, by bringing the system to a proper secreting point, and by sustaining the vital force, till the calomel has time to act. It was my intention to introduce some cases illustrative of the foregoing remarks, but my essay has already reached the limit which I had prescribed to it.

Selma, Ala., April 1848.

ART. IV.—*Further Observations on Trismus Nascentium, with Cases illustrating its Etiology and Treatment.* By J. MARION SIMS, M. D., of Montgomery, Ala.

SINCE the publication of my first paper on this subject, (*Amer. Journ. Med. Sci.*, April, 1846,) new facts and observations have developed new truths, and detected the errors into which I had fallen. They will show that some of my first positions are untenable. For instance, I said that a *deficient ossification* of the cranial bones was essential to the production of the disease. This I must recall; for, as a general rule, the very reverse is the fact. The *deficient ossification* alluded to, was not intended to be understood as a *pathological* condition, but simply the *physiological* state so necessary to a safe and easy parturition.

Another point on which I was in error, is the "dorsal decubitus." I find that children may have trismus, and at the same time, be kept on a feather bed, and that, too, when they are laid upon (what mothers usually call) *the side*.

The next error that I have to correct is in regard to "spinal hemorrhage." The sequel will show that, under certain circumstances, a child may die of trismus in its most aggravated form, and yet have no extravasation within the spine.

But while these positions are admitted to be erroneous, there are others which are fully sustained by every fact that has fallen under my observation, viz:—That trismus nascentium is a disease of centric origin, depending upon a mechanical pressure exerted on the medulla oblongata, and its nerves; that this pressure is the result, most generally, of an inward displacement of the occipital bone, often very perceptible, but sometimes so *slight* as to be detected with difficulty; that this displaced condition of the occiput is one of the fixed physiological laws of the parturient state; that when it persists for any length of time after birth, it becomes a pathological condition, capable of producing all the symptoms characterizing trismus nascentium, which are instantly relieved, simply by rectifying this abnormal displacement, and thereby removing the pressure from the base of the brain.

These are simple truths, mere corollaries, plainly deducible from facts which I shall now proceed to relate, throwing in occasionally some practical remarks, naturally suggested by individual cases, as proper to the elucidation of the subject generally.

CASE I.—Dr. Hogan, writing to the editors of the *New Orleans Med. and Surg. Journ.*, July, 1846, p. 136, says, "I have met with a case of trismus nascentium at the sixth day, since Dr. Sims' paper was published in the *Amer. Journ. Med. Sci.* I found the child upon its back, '*with the occiput shoved in,*' spasms occurring upon the slightest noise or touch. It was in articulo mortis. I left it dying. I called too late in the afternoon to make a post-mortem examination."

CASE II.—For this case I am indebted to Mr. J. C. Duncan, of Illinois. I copy it from his letter bearing date "Bloomington, August 9th, 1846."

"Four days since I received your pamphlet on trismus nascentium. The description of the disease immediately reminded me that the child of a near neighbour had been suffering under precisely the same symptoms for two

days past, and was then supposed to be dying. The attending physician had declared it to be inflammation of the brain, and that death must ensue. The child was fourteen days old. Mrs. D., after hearing a brief narration of the contents of your paper, hurried away to the sick room to examine the child's head. The child had lain *on its back all its life*. She raised it up and found that *the back of the head had all sunk in*. * * * * * The spasms had been more frequent for the last twelve hours—the mouth was closed tightly, and swallowing impossible—a change of position (on a nice soft pillow) was adopted. In four hours from this change, which was repeated from one side to the other every half hour, the head had regained, in a great measure, its shape—that night the child was able, although with difficulty, to take some sustenance—by morning the spasms had almost entirely ceased, and in eighteen hours the babe was at the mother's breast. It is now perfectly well."

Mr. Duncan is not a medical man, but the facts of this case are not the less forcible.

CASE III.—Mr. Jas. S. Winters' child (male) was born on Saturday, 21st March, 1846, at 4 A. M. It was a fine hearty looking child, but seemed to be quite unwell—*refused the breast from the first*—was not able to open the jaws so as to take the nipple; was restless, sleepless and fretful all the time, making a distressing moaning, with occasionally "a peculiar sort of unpleasant breathing." What little nourishment it was forced to take seemed to sicken it. The grandmother, feeling great uneasiness about the child, held it on her lap most of the day and nearly all night. Its moanings and restlessness, which she attributed to the colic, caused her to give it repeated doses of paragoric and catnip tea, but with no benefit. It appeared to be in a great deal of pain, and throughout Sunday she noticed that it had occasionally a little *spasmodic quivering* or jerking of the *right* arm and leg, but not of the *left*. The movements or spasms of the arm and leg were, as well as she could determine, synchronous.

On Sunday evening, I saw the child. It was then thirty-six hours old. Had for several hours refused to swallow anything. The grandmother had it lying across her lap on its back, with the occiput lying on her left knee. After hearing a description of the symptoms, as above related, I examined the occiput, and found the *right* edge of it pushed under the corresponding part of the parietal bone, while the *left* was riding *over* its parietal neighbour. [I wish this fact to be remembered, for, in connection with others to be related, it assists very materially in pointing out the rationale of the diseased action.] The grandmother remembered that the child had never been laid on its side. Of course, I lost no time in placing it *properly* on its side on a pillow. In two hours it was perfectly free from all pain, distress, moaning and jerking, and it rested finely all night. On the next morning (Monday), it was able to suck freely for the first time, and the right edge of the occiput, like that of the left, was occupying its proper relative position, *exterior* to the parietal.

This child was born *trismal*. Its restlessness, sleeplessness, moanings, stridulous breathing, spasmodic choreal, jerking of the arm and leg, its locked jaws and *inability to suck* (although there was no tonic rigidity), all go to establish it as a case of trismus: and there was an *inward* displacement of a portion of the occiput. Now all these symptoms were instantly arrested simply by rectifying the occipital displacement, and, that, too, without giving one drop of medicine.

CASE IV.—Wyatt Peters' child, female, born on Monday, 23d of March, 1846. Nothing unusual in the labour, which was the second. From the very hour of its birth, it seemed to be affected with *cold*, as manifested by a "hoarseness," "wheezing," or "rattling in the throat," which has always been worse during sleep, and worse at night than in the day. The mother says that over and over again they have made it suck a "piece of *fat raw bacon* to clear the *phlegm* out of its throat," but to no purpose. With this exception, the child did pretty well for the first nine or ten days, when the mother was waked up about one o'clock in the morning, by its hard breathing, and then for the first time *it refused to suck*, or, rather, it *could not open its mouth* wide enough to take the nipple. Every attempt at nursing would excite a spasmodic closure of the lips, thus preventing the introduction of the nipple. There was also great restlessness, with moaning and slight spasms, but no tonic rigidity. These paroxysms would come on every night near about the same hour, with more or less violence, and last usually three or four hours. I saw the child on the nineteenth day, for the first time. Its crying, which was attended with a spasmodic, croupy sort of cough, had always been peculiarly weak, hoarse and stifled. It had occasionally a sudden involuntary jerking of the hands towards the head (as if it were *frightened*), accompanied with a *tight puckering* of the mouth. Jaws could not be opened. It *could not suck* at all. [This inability to suck is pathognomonic of the disease.] The mother made many fruitless efforts to force the nipple into the child's mouth, exciting invariably a spasmodic closure of the lips. A little tea seemed to strangle it; indeed, it *could not swallow*, but with the greatest difficulty. Its breathing was hurried, stridulous. [What the mother called "stuffed or choked up with cold," "wheezing," "rattling in the throat," "hoarseness," I find to be a stridulous inspiration. Until I saw this case, I was not aware of what was to be understood by the graphic language used by mothers to designate this symptom; for instance, in my former paper on this subject, I quote the words of one mother where she says that her child "made a little wheezing noise like a kitten." Another, "like it was choking to death;" and a third, where it made a noise "more like something a dying," all evidently meaning what we understand by the term laryngismus.]

When I entered the room, the mother was holding the child in her arms. It was *lying on its back*, the occiput resting exactly on her left arm. On inquiry, I found that it slept on a pile of pillows in a rocking chair during the day, and in the bed with the mother at night. Without asking any more questions, I was determined to see in what position the child was kept, so I requested the mother to place it in the chair, as she was in the habit of doing during the day. She did so, and *laid it on its back*. I now directed her to take it up and put it to bed, just as she would do if she were going to rest for the night. She did so, and placed it *exactly on its back again*. She had always kept the child lying on its back, was afraid to turn it on the side, "for fear it might turn clear over on its face, and get smothered."

The edges of the occiput were overlapped by those of the parietal bones, not to so great a degree as I have seen, but to a very remarkable extent: so much so that the parents could easily perceive it when it was pointed out and explained. I had the child placed *properly* on its side on a pillow, not giving any medicine. In twenty minutes (by the watch), the stridulous inspiration was gone; and in thirty minutes, there was no moaning or other signs of uneasiness. I left the little patient at 10 o'clock, feeling

pretty well satisfied that it would recover without any more trouble; but about midnight, (as usual,) it screamed out suddenly some three or four times in rapid succession, throwing the hands up, and clinching them so tightly, that they could not be opened; at the same time that the head was jerked back, eyes rolled in every direction, the lids being kept widely open, jaw "fallen," feet and legs stretched out, body thrown backwards, and all attended with a sort of *quivering* motion thrilling the whole frame. These spells of clonic spasm (thus described almost in the mother's own language), would come on every two or three minutes, the paroxysms getting shorter, and the intervals longer, till they gradually disappeared about 3 o'clock in the morning. During this period, the mother felt so uneasy about the child, that she took it up two or three times on its pillow, but finding every time she touched or moved it, that the "spells" got worse, and would come on oftener, she was constrained to let it lie still. About 4 o'clock, it sucked a little, but very feebly, and fell asleep. At 6 o'clock, it waked up, and sucked very well, indeed, better than it had ever done before. From this time on, it was regularly convalescent, although the occiput did not gain its proper position *exterior* to the parietal bones for about 36 hours, during which time the child was kept carefully on one side or the other. After this, it was laid upon the back without disturbing the relative position of these bones, and without reproducing the slightest symptom of the disease.

CASE V.—This is one of the most remarkable cases that I have ever known. On Thursday, 2d of April, 1846, my friend Dr. Vickers was sent for to see a negro child at Robert T. Ashurst's, which had been sick more or less all its life. It was then *between four and five months old*. The doctor related the case to me, and I transcribed it nearly in his own words. I shall use the notes made at the time. He says: "It was a pale, puny, sickly looking, emaciated child; had frequent, involuntary, greenish mucous, griping passages. It was lying on its back in a deep, narrow cradle. Had a constant rotary movement of the head on the pillow as it lay on its back, exactly like what we see in hydrocephalic cases. It seemed to be clawing at its mouth with the *right hand*; yet the hand was directed to no particular spot. By watching it awhile, I soon discovered that the motions of the right hand were involuntary, that it moved in a regular gyration from the mouth across the breast, down by the side, being now thrown outwards and brought round again towards the mouth, and so on; each gyration occupying a definite, almost unvarying period of time. In addition to this movement of the *right hand*, I observed a similar one of the *right leg*, which was altogether synchronous with that of the upper extremity. This consentaneous action in the right side naturally led me to notice the left, and I immediately saw that it was passive, indeed, perfectly paralyzed. I raised up the *left hand*; let it go, and it fell lifeless by the side. I now raised up the *left leg*, and let it go. It, too, fell, like a sick, powerless and motionless, and obeying most perfectly the laws of gravitation. Its eyelids were half open, eyes glazed and turned up, pulse almost imperceptible, stringy; one pulsation running so closely into another, as to make it impossible to count them. Its breathing was panting, and very frequent. I really thought the child moribund.

"It was lying on its back on a cradle, which was too short to allow it to lie its full length, and so narrow and deep, as to preclude the possibility of its turning on its side, even if it had had the physical power to do so. Its

bedding was composed of blankets, and it had an old pillow of chicken feathers under its head. The back of the head, and for half an inch around the lambdoidal edges of the parietal bones, was as clear of hair 'as the palm of my hand,' so smoothly had it been worn off by the constant rotary motion of the head. *The occipital bone was shoved in* on the brain to an almost incredible extent. It was pushed so far under the level of the edges of the parietal bones, as to have the appearance of a segment of a sphere sawed off and placed on the inside.

"I immediately determined to see whether all this train of symptoms (though I feared it was too late), was not the result, solely, of *the dorsal decubitus, and occipital displacement*; so I took the child up and placed it on its side in a bed, without giving it any medicine at all. In one hour, the spasmodic action of the *right* arm and leg began to subside; and just in proportion as the *chorea of the right* side was relieved, so was the *paralysis of the left*. In two hours its pulse was full, strong, easily counted, and only 120 per minute. Its breathing was entirely relieved. After keeping the child about four hours on alternate sides, (seeing that it was now out of all danger,) I thought I would try the experiment of placing it again on its back in its *little pillory*, the cradle; and, in less than five minutes, all the symptoms were reproduced, *the chorea, paralysis, &c.* Turning it upon the side soon put a stop to them. This experiment was repeated frequently with the same results.

"It now occurred to me to try some experiments, with the view of observing the symptoms of (properly speaking) a *trismal* character. The mother said, that there had always been great difficulty in getting the child to suck; that sometimes it could not draw the breast at all; and very often would stop before it got half through; and that this had been the case from the time it was a week old. I requested her to suckle it; (it was now quiet; had been for some time lying on its side.) She took it up from the bed, and applied it to the right breast. In doing this, the occiput fell precisely against her arm, as it supported the head; there was a difficulty in the child's laying hold of the nipple, and she attempted to force it into the mouth by pressing this firmly up against the breast. This plainly increased the difficulty, for the pressure of the child up to the breast, by the arm supporting its head, and acting upon the occiput behind, evidently produced a deeper displacement of this bone, and so every effort on the part of the mother, while she thus held the child, only aggravated the trouble. Seeing that there was no chance for it to suck in this way, I requested the mother to take her arm from under its head, while I would support it in my hands. I now held its head between my hands, gently and firmly compressing the parietal protuberances for five or six minutes, but with no pressure on the occiput; and it sucked with the greatest ease; indeed, most ravenously. I then changed the pressure from the parietal to the occipital bone, and instantly the same difficulties occurred, as when the head was resting on the mother's arm; and thus I occupied myself for nearly half an hour in alternately producing and relieving the symptoms of *lock jaw*; in the first instance by *displacing* the occiput, and in the next, by *replacing* it.

"I did not intend giving the child any medicine, but Mrs. A. insisted on its having 'a good big dose of calomel.' Knowing that she would not be satisfied if I did not prescribe something more than mere change of position for so grave a case, I poured out a few grains of prepared chalk, and requested her to give *the calomel* at night, and to be particular to keep it on one side or the other, all the time. The child had taken any quantity of chalk mixtures before, without producing the slightest good result: so I

concluded that I might venture on this as a placebo, without any danger of dividing the honors with change of position.

"Next day, I visited my little patient, and Mrs. A. met me at the door, in perfect ecstasies with the results of the *quasi* dose of calomel—said she had never seen calomel exert such miraculous effects in so short a space of time; that the child had had two good bilious evacuations for the first time in its life; that it sucked well, (I had directed the mother how to nurse it without pressing in the occiput,) and looked better than any one could have hoped. Its passages (as before remarked) had *always* been greenish mucus without fetor, but I now found them natural in appearance, and *fetid* enough. In three days, I discharged the case as cured, not having given any physic save the few grains of prepared chalk."

I visited Dr. Vickers' patient with him, on the 13th April, eleven days after he first saw it. I found the child quite lively, and fattening very fast. It had a *pale, ashy* look; indeed, it was as pale as a mulatto, but is evidently free from any taint of that sort, for its parents are quite black. The occipital region was perfectly clear of hair. The occiput was not pushed under, as at first, but still its edges were within those of the parietal bones. It was movable by pressure. While examining this bone, it occurred to me to try the experiment of pushing it in on the brain; so I placed my two thumbs on the *pars occipitalis*, grasping the lateral and anterior parts of the skull with the hands, and thus, by the use of considerable force, I displaced it suddenly. What was my surprise to see, in an instant, the immediate reproduction of the involuntary gyrations of the *right* arm and leg, with a motionless state of the opposite side. This experiment was often repeated, with precisely the same results. Each time, as the pressure was removed, the symptoms ceased, the bone resuming its position with the cessation of the pressure. By these experiments, I also had the satisfaction of fully verifying Dr. Vickers' observations on the *trismal* symptoms in connection with the displaced occiput.

On inquiry, the mother informed me that the child had never been well since it was born; that it never had a natural or healthy-looking passage from the bowels, till Dr. Vickers was called to see it; that it did tolerably well till it was about a week old, when it became fretful, refused to suck, made "a curious noise in its throat" (stridulous inspiration); that sometimes it would suck pretty well, and then, again, it could not; that it had a perpetual bowel complaint, and for the last two or three months, had passed thousands of little, fine thready-looking worms.

It may be thought that I am occupying too much time with a single case, but it is so important in its bearings on the etiology of the disease, that I must be pardoned for adding a few words more.

It might be said, "If the occiput was so much displaced, and the child lived *five* months, how is it that they die very suddenly, and that often, when the occiput is so slightly displaced as to be scarcely discoverable?" Let us examine the facts of the case for an explanation. The child was kept all the time in a cradle, without a nurse. The cradle was too short to allow it to lie flat down, so it was kept in a semi-erect position, with its head supported by a large (not very soft) old pillow of chicken-feathers, all *matted* together—the cradle was too deep and narrow to allow it to turn on its side, even if it had been strong enough to do so—the unvarying "dorsal decubitus" kept the occiput displaced; the semi-erect position threw the weight of the head on that point of the occiput between the occipital protuberance and the posterior fontanelle; this necessarily tilted the mesocephalon forwards against the cuneiform process of the occipital bone, and

pressure exerted on the pons* always produces chorea or paralysis, or both, in exact proportion to the amount and degree of pressure. The semi-erect position was altogether favourable to the prolongation of the disease (and of life), because, in a perfectly supine position, the weight of the head would have rested lower down on the occiput, which would have displaced the bone, so as to press more on the medulla oblongata and the eighth pair of nerves, and thus the patient would, in all probability, have died, at a very early period, of asphyxia. Moreover, the semi-erect position favoured the return of the blood from the spinal veins into the general circulation, through their anastomoses with the cervical, azygos, dorsal, lumbar and sacral, thereby preventing the congestion and, perhaps, extravasation, which may result from the purely supine position.

I will admit that the case above related has not a parallel, so far as I know, but it must not be supposed that chronic cases of trismus are uncommon. Most of our writers on the subject describe the two varieties of acute and chronic; thus Coley says (page 393)—“The chronic variety commences with dysentery, and is attended with a cold exsanguious state of the skin, whence it has been popularly denominated the ‘white locked-jaw.’ This form of the disease is tedious, and attended, as when dysentery is uncomplicated, with rapid emaciation, which renders ordinary treatment insufficient, and terminates in death.”

CASE VI.—This case furnishes another example of the disease in a chronic form, and is related to me by Dr. G. A. Tompkins, of Pike Co., Ala., who writes thus:—

“Some time ago, when casually passing a house in this neighbourhood, I was stopped, and asked my opinion in regard to the disease of a white child, as it was thought to be an uncommon case. My attention was called to an extensive phlegmonous erysipelatous inflammation of one arm, and the opposite thigh. On examining the child more closely, I discovered the muscles of the extremities to be rigid, and that there was considerable opisthotonos, which circumstances, together with the unavoidable position on the back, induced me (from having a short time previously heard of your views of trismus nascentium), to make an examination of the occiput, which I discovered to be *very much depressed, and considerably overlapped by the parietal bones*. I was not called in to take charge of the case, but I directed them to lay it on its side, if possible. I afterwards learned that they tried to do so, but the tenderness of the hip prevented it from lying on one side, and that of the shoulder from the other; so it was allowed to continue on its back. It died five days afterwards. On making inquiries since, I learn that it was *unable to suck* when I saw it, that its dejections were of a *dark-green dysenteric* character, and, likewise, that it occasionally had *spasms*. It differed from the cases of trismus reported in your paper, (which I have since seen,) in the age of the patient, as this child was about *five months old*, though it was badly-grown, and very much emaciated.

“November 13th, 1846.”

The six cases now related are all of one character—all plain and simple—all had the occiput *shoved in* to such an extent that it was easily detected

* See an interesting paper on the “Source of Convulsions,” by T. Wilkinson King, Esq. Med. Times, Oct. 1844.

by a very superficial examination, and all had been kept upon the back, and *flatly so*.

I now pass on to a class of cases, where it is not so easy to detect the occipital displacement, and where, of course, there will be less of the "dorsal decubitus;" but in which the true relative position of the bones may be readily detected, when the method of doing so is once understood.

This is the class of cases which formed the basis of two excellent papers on this subject, by my friends, Dr. Baldwin,* of Montgomery, and Dr. Gailard,† of Charleston. Each advocates the old notion of the traumatic umbilical origin of the disease; one contending that the "spinal hemorrhage" is a sequence of the spasms; the other, that "it is not necessary to the disease." With the first, I shall agree that a child dying of trismus, really dies *asphyxiated*; and with the latter, that "the effusion of blood into the spinal canal," is not an essential and unvarying feature of the disease.—Their theoretical views I shall not touch; but I may be pardoned for examining a little into the facts adduced. Dr. Baldwin kindly invited me to see his case, both during its progress, and at the autopsy, and as it forms the basis of some practical remarks on the disease, I shall take the liberty of borrowing it from his published account.

CASE VII.—Dr. Baldwin says (*loc. cit.*, p. 363)—"At midnight, the child became very fretful, and refused to nurse, and occasionally was noticed to 'jerk,' as if it had spasms, and continued in this situation through the night. Has passed the meconium, and its last operation was yellow.

"11 o'clock A. M. The mother is lying on a *soft feather bed*, and in every way comfortably situated. When questioned relative to what position she had kept the child in since its birth, she stated that it was *her habit* to lie on her *side*, and that she kept the child *on its side, facing her*, changing its position as she changed her own from side to side, but never on its back. * * * * *

"Among other prescriptions left for the child, I directed that it should not be allowed to lie on its back, and that its position should be changed often, from side to side, on a soft pillow. As regards the position of the bones of the head, they seemed to me to be about as regular and well-formed as in infants generally of its age. Dr. Sims thinks the lateral edges of the occipital bone are 'slightly' overlapped by the parietal. * * * * Dr. Boling, after carefully examining the bones of the head, remarked, that if their position was remarkable for anything, it was for their very great regularity and uniformity."

As I said at the commencement of this paper, I have found out that a child may have the occiput "slightly" displaced, without ever having been kept square upon its back, or even on a hard substance. And that this *slight* displacement is all sufficient to produce the disease in its most aggravated form. When my first paper was published, I was not aware of this fact, and it was fortunate for the discovery, that the first cases that occurred to me, had the occiput so plainly, and so much displaced, that it was almost impossible for the mind to view the disease in any other light than as arising from the pressure exerted by the displaced occiput; and particularly, where the disease existed in all its force, and where all the symptoms were relieved, just in proportion as that displacement was rectified.

* Amer. Journ. Med. Sci., Oct. 1846, p. 353.

† South. Journ. Med. and Pharm., Sept. 1846.

Once thoroughly imbued with this idea, it was a very easy matter to detect "slight" variations, or degrees, of occipital displacement; and it was certainly not difficult to infer that a "slight" occipital displacement was sufficient to produce the disease; particularly, when I found that every symptom yielded to its correction.

No one would ever have supposed, *à priori*, that so "slight" a displacement as that noticed in Dr. Baldwin's case, could have produced the disease; and if I had not since seen several similar cases remedied, I should not have felt warranted in claiming it as one arising from "occipital displacement."

Dr. Baldwin does me ample justice in saying that "Dr. Sims thinks the lateral edges of the occipital bone are 'slightly' overlapped by the parietal." He quotes me literally, and reports it honestly.

As there was a difference of opinion between us in regard to the relative position of the occipital and parietal bones, and as other writers have reported cases in which "the occiput was not shoved under," I feel warranted in devoting a few words to the proper method of determining this point.

In every case of labour, the occiput of the fœtus is displaced inwards, with its lateral edges under the parietal bones. There is hardly an exception to this rule. Moreau first observed it, and any man can easily satisfy himself of the fact.

In two instances, I have seen the edge of the occiput along one arm of the lambdoidal suture, underneath the parietal, while the opposite one was above it. This is the only variation of the general rule that has fallen under my observation. That the occiput is displaced then, in *every instance*, at birth, is a *truism*, and needs no illustration; but that it may remain so for any length of time afterwards, requires some proof.

Now, suppose I am called to a child, one, two, or even three or four weeks old, with symptoms of trismus. We will suppose, too, that it is a fine large child, hearty and plump in appearance, with the bones of the head well ossified. The mother says that she "always lays her babies on their sides." I wish to find out whether there is any occipital displacement. I run my hand around its head, applying the palm to the occiput, (as nine out of ten would do,) and feel no displacement. This is the character of one half the cases that occur, and this is the way in which they are investigated. But now let me go to work to find out exactly the relative position of the bones. And here, let me say, that one of two things must *invariably* exist: *either the occiput will be under the parietal, or the parietal will be under the occipital*, according to the position in which the child has generally been retained. There is no such thing as the edges of these bones being in apposition or parallel with the commissures on the stretch. I have examined the heads of several hundred infants, since my mind has been turned to the investigation of this subject, and I have seen but very few during the first week, and none after the second, in which the edges of these bones were parallel, and the commissure on the stretch. This occurs only where the ossification is very deficient, is easily detected, and of course forms an exception to the general rule. Whoever, then, reports a case of trismus, saying that there was "little or no displacement of the occiput," or that "it was not more so than usual with children of that age," draws the conclusion from a superficial and careless examination, and the report of the principal fact is too indefinite to be of any value. He must examine it critically, and say *positively*, either that the edges of the occiput were *under* the parietal bones, or *exterior* to them. And now for the

method of finding this out. If it is not ascertained almost by the sight alone; or if it is not immediately discovered by the usual careless way of running the broad surface of the hand around the head, (and this will not be done unless in cases where the child has been confined to an almost unvarying dorsal decubitus,) then I go to work in this way.—I press the forefinger pretty firmly against the occiput, about half an inch from the lambdoidal suture, and at a point about half way between the posterior fontanelle and the mastoid process—I now pass the finger slowly and cautiously *across* the suture; at every step making firm pressure. When the finger arrives at the suture, or, more properly speaking, the commissure, if the occiput is under the parietal bone, it will be found to yield, and the finger coming in contact with the edge of the parietal, will have to be elevated a little so as to pass over on to its free border: but if the occiput is on the outside of the parietal, then the finger meets with no obstruction; on the contrary, it glides smoothly over, and falls on to the parietal. The proof of this will be found in a retrograde manœuvre. Now place the finger in like manner on the other side of the lambdoidal suture, and pass it, as before directed, *across* the suture. If the occiput should be on the *inside* of the parietal, then will the finger pass over unobstructed, merely having to drop a little to come in contact with the occiput; but if it should be on the *outside*, then will the finger encounter its salient edge, and have to be elevated a little to get over it. By following this simple plan, there is no chance of making a mistake, or of even speaking indecisively on the subject. I wish to be fully understood in this matter, for upon the nice discrimination of “slight” displacements of this bone, will depend the lives of generations yet unborn.

Now, this is the plan I pursued in the investigation of the case above referred to, and it was the only method by which the true relative position of the bones could possibly have been detected.

But it may be said, “What if the bone was a little under the parietal, so little that two out of three could not detect it? Is it possible that it is sufficient to produce trismus?” I answer emphatically, yes!

During parturition, the proper place for the occiput is *underneath* the parietal; but in extra-uterine life, its proper and only safe position will be found to be in the *outside* of this bone. Usually the occiput gets right, *i. e.* *exterior* to the parietal (when a proper position is observed), in from twelve to forty-eight hours or more; generally it takes about thirty-six hours. Once get the occiput right, get it *outside* of the parietal, and it *never* goes back. You may then lay a child on its back with the most perfect impunity; indeed, I should as soon think of breaking in a stone arch with a blow from a reed, as to displace the occiput under these circumstances by merely a dorsal decubitus.

But as these precepts are better enforced by practical illustrations, I shall proceed with my cases.

CASE VIII.—Mrs. Gregory’s child, female, born on the 7th September, 1846. I was called to see it on 1st Oct. at 8 P. M. It was then a few days over three weeks old.—Here I copy from my notes made during the visit.—The child has been perfectly hearty ever since its birth up to yesterday, when it seemed to be “stretchy and gaping,” was restless, fretful, and made a distressing moaning noise; slept some last night, but not much; was constantly “twisting and screwing,” and writhing about mechanically as if in great distress; mouth generally open, sometimes smacking the lips,

and all the time lolling out the tongue. *Has not sucked* since it was taken yesterday (thirty-four hours); tried twice, but did not succeed. As the jaw is "fallen," it is easy to put the nipple into the mouth, but *from want of suction power, it cannot draw the breast at all*; seems to mumble it. The breast being full, some little milk was discharged into its mouth, which was swallowed. It appears to be *tired, worried*; grunts and moans perpetually. Breathing on the *panting* order. I requested the mother to lay it in the cradle, (where she usually kept it;) she did so, laying it *rather* on the back. This evidently aggravated all its symptoms. After watching its actions for eight or ten minutes, I had it taken up and applied to the breast again, but it *could not suck*. It champs the nipple a time or two, looks fatigued, rests, and lets go entirely. It gapes, pants, moans, grunts, writhes about, lolls out the tongue, and then pukes by a sort of regurgitating process; but this affords not the slightest relief. I had it applied to the breast again, but *not a drop of milk was drawn*. Its bowels are somewhat disordered.

When I entered the room, the mother had the child in her lap, lying on its back, the occiput supported by her arm, the head rather hanging over it; thus making the greater degree of pressure low down towards the foramen magnum. I inquired if she had kept the child on its back or sides mostly. "Oh! Doctor," says she, "I always keep my babies on the side,—never lay them on the back." While these words were being uttered, she held the child as above described. I now requested her to put the child to bed, and show me how she laid it; she put it in the cradle, and laid it, *not* upon the *back*, true, nor upon the side, but diagonally between the two.

It was a fine, large, plump-looking child; had the roundest, smoothest, prettiest head I ever saw. I ran my hand around the head to discover the relative position of the occiput and parietals; but I did not even discover the lambdoidal suture, much less any irregularity in the bones. This would have satisfied almost any observer. He would have said, "Well, the mother *says* she has kept the child on its side, and I can find no displacement of the occiput; therefore, this case is opposed to the theory of occipital displacement." This logic did not satisfy me, because I *knew* that the edges of the occiput must be either *within* those of the ossa parietalia, or *exterior* to them; and I *knew*, moreover, that, if the latter was the case, the child's position had been managed correctly: but if the former, that it had never been lain on its side *properly*, at least for any length of time.

By applying what I call the *test method*, (described on page 68.) I soon discovered that the edges of the parietals were *exterior* to those of the occipital bone; that the latter was movable by pressure from behind; and that the left edge of the occiput was a *little* more displaced than the opposite one, which was shown by the greater prominence of the edge of the left parietal. By pressing forcibly on the central part of the "*pars occipitalis*," with both of my thumbs, it was easily depressed, and all the child's *distresses* and mechanical manœuvres were instantly aggravated, producing, however, no convulsive movements; but a spasmodic *quivering* of the *left* hand appeared, just as the pressure was removed from the occiput.

Well, the mother had laid it in the cradle, upon what mothers usually term *the side*, i. e., neither on the back nor on the side, but with the face looking in the direction of a line drawn diagonally between "a perpendicular and horizontal." I now tried what I call laying a child on the side. I "*batted*" a pillow up with more feathers at one end than the other, thus making a soft "*inclined plane*." The child was laid lengthwise the pil-

low, on its side properly, with its face looking directly to the horizon, so that the weight of the head would be sustained on the surface embraced between the parietal protuberance and the outer edge of the orbit. As soon as the child was placed in this position, the mother exclaims, "Why, doctor, I have, as I told you, always laid the child on its side, but nothing like *so much so* as that."

In a very few minutes, perhaps not more than five, the child showed manifest symptoms of improvement. It soon got perfectly quiet; the moaning, "*screwing and twisting*," all ceased; the breathing became calm, regular, and free, without any *panting*; and it slept easily and sweetly. After awhile it waked; would occasionally let the lower jaw "fall," protrude the tongue gently and smack the mouth, like it was tasting something good; would occasionally open its eyes and look around, but without any motion whatever; indeed, it was wholly relieved, and that in the short space of 30 minutes. I left it for the night at 9 o'clock, with the injunction to keep it on its side *properly*, not having ordered any medicine. It took the breast at 11 o'clock, (after having lain on the side for two hours and a half,) and sucked well, drew it strongly, went to sleep immediately afterwards, and rested finely all night.

On the next day, (Oct. 2d, 7 A. M.) the child was well, but the occiput was *not yet exterior* to the parietal bones; persevere with position.

7 P. M.—Occiput not quite right yet; child quiet all day; sucked well; no moanings, stretchings, gapings, or distress of any sort; bowels have not been disturbed since the change of position last night.

Oct. 3d, 8 A. M.—The occiput is now right; is plainly *exterior* to the parietals, but can only be detected by the peculiar method already described. I directed the mother to keep the child on its sides a day or two longer, and then to lay it in any position she pleased.

Now, there are some, (particularly those who have preconceived *opinions* to uphold,) who may doubt that this was a case of trismus. What was it, then? Heretofore we seem to have been carried away by a name, or by *notions*. For instance—one will say, "I saw a case very much like trismus, the other day, in a child a week old; *it could not suck*, but then its jaws *were not locked*, for I could force them open by putting my finger between them." He, led off by a *name*, had fixed in his mind the *locking* of the jaws as the characteristic feature of the disease, when all the world knows that, in trismus *nascentium*, the jaw is just as apt to be "fallen" as "locked." Another will relate a case, occurring, perhaps, on the third day, giving every essential symptom of the disease, and then say, "but there were no tonic spasms; nothing, in short, characteristic of tetanus." He, too, had assumed one of the unvarying features of traumatic tetanus as pathognomonic of this disease.

Here let me say, that there is one symptom of trismus nascentium, which is uniform, makes its appearance early, and (in conjunction with others) is a certain diagnostic; and that is, the *difficulty of sucking*. The child may have no tonic rigidity; clonic spasms may be wanting; it may even swallow with some degree of freedom; its jaws may not be locked; it may possibly sleep well, (perhaps too well;) its bowels may be in proper condition; but if it goes long *without sucking*, if it *cannot draw the breast*, and if this cannot be accounted for by some competent physical cause, such as hare-lip, cleft palate, sore mouth, &c., then, I say, it has trismus. Let it then be remembered, that this *inability* to exercise the *suction power* constitutes the chief and almost the only unvarying early symptom of the dis-

ease. *It is pathognomonic, because unvarying*; but it never exists alone; it is always attended by other symptoms, which ought to arouse suspicion at once; such as moaning, sleeplessness or drowsiness, stridulous breathing, borborygmi, diarrhœa, dysentery, whining, fretting, writhing, &c., all evidently manifesting some general derangement of the whole machinery. So well understood is this amongst the negroes, who have lost children with this disease, that they recognize it at once; they look for this *difficulty of sucking* with the greatest solicitude, and when it occurs, they give up the child as irretrievably lost. They, with their unfortunately practical experience, will recognize the disease long before a physician, who is unaccustomed to it, will begin to suspect its true character. Indeed, physicians generally do not recognize it till it has advanced to the last or fatal stage. I well remember treating a case (ten years ago), when I thought the child was labouring under colic; it did not occur to me that it *could not suck*; I only thought that it *would not*, because it was in too much pain. My eyes were not open to its real danger, till the supervention of spasms, which soon carried it off.

It would be fortunate, then, if we had some unfailing sign of this dreaded malady, so that we might recognize it at once, and apply the appropriate treatment. The *inability to suck*, I have pointed out as that sign.

I will now go on to the consideration of a class of cases, which I shall denominate *trismoid*, for the simple reason, that they are wanting in some particular points which serve to characterize *pure trismus*, and yet present a chain of phenomena belonging to this disease, evidently produced by the same mechanical agency, and relieved in the same speedy manner. More properly speaking, they constitute the initiatory stage of trismus, lasting, however, for a long time without developing it fully.

Mrs. S——'s child, male, aged three weeks, when about eight days old, was noticed to be colicky; has been so ever since, with a constant gurgling of wind in the bowels; for two days past has not sucked so well nor so strong as usual; has a snuffing and wheezing in the throat, like it had taken cold; has not slept so well for a week past as it ought. It is a very stout child; head large; bones well ossified; occiput *apparently* all right; but a proper examination shows it to be "slightly" overlapped by the parietal bones; child lies in a crib on a nice soft bed. The mother says she lays it on the side. I requested her to show me how she laid it on the side. She seemed quite astonished at my insisting on such a simple matter, as if there could possibly arise a question on that point. However, she put it in the crib, and laid it (as all mothers do, who say that they are in the habit of laying their children on the side, *i. e.*) diagonally on the side. I now showed her how to lay it properly on its side; no medicine was given. The child rested well that night, better than it had for two weeks. The colic, gurgling of wind, wheezing, and "slight" difficulty of sucking all disappeared directly, and in thirty-six hours the occiput was occupying its proper position—exterior to the parietals. The change in the relative position of the bones, could only be detected by the proper method of examining it.

Mrs. A——'s child, male, six weeks old, had diarrhœa and colic; rested badly at night, and fretted very much during the day; was rather a puny looking child; had never appeared to thrive; occiput under the parietals. I had directed the mother how to lay the child, when it was but a few days old, but my advice had not been followed, and, therefore, the occiput could not get out of its prison bounds. I gave no medicine, but simply placed

the child properly on its side, enjoining the necessity of keeping it so till I should order otherwise. In less than twenty-four hours, it was wholly relieved, and in forty-eight hours, the occiput occupied its only safe position on the outside of the parietals. It had no return of the symptoms, and began to fatten from that time.

Mr. N——'s child, male, nearly four weeks old, appeared to be doing well for the first eight or nine days, except that it drew the breast feebly; sucks well now, (March 13th, 1847.) It makes a constant moaning, distressing noise, day and night, but only when it is lying down; has occasionally a panting respiration; opening the mouth and protruding the tongue, like it was trying to get a hair or some foreign substance out of the mouth; twisting round the head and writhing about, as if in pain. All this was supposed to depend upon the colic, and the father thought that he had *prima facie* evidence of it, from the fact that he could temporarily suspend the symptoms by laying the child on its belly, across his lap; but they invariably returned when he would lay it down. Slamming a door, opening a window shutter, or any sudden noise, (even when slight,) easily wakes it up in a fright. It has a bowel complaint, which has persisted despite of every remedy, having appeared with the other symptoms about the ninth day. The attending physician has been giving chalk mixtures, carminatives, &c., without the slightest good effect. It had no tonic rigidity; no clonic spasms; no locking of the jaws; no stoppage of the suction power, and was not, therefore, a case of trismus; but the age of the patient, and the symptoms, clearly indicated its *trismoidal* character.

The bones of the head were remarkably well ossified. The child had never lain properly on its side, though it had never been kept flat on the back. Occiput "slightly" under the parietal bones, more so on the left than the right side, particularly down towards the mastoid fontanelle, discoverable only by the correct method of examination. I gave no medicine, but placed the child properly on its side, with orders to persevere till it should be relieved. In less than a day, the diarrhœa and all its distresses disappeared; and on the third day, the occiput was found to be exterior to the edges of the parietal bones, which, to the practised touch, could be easily discriminated. There was no return of any symptom of the disease afterwards.

Mr. May's child, male, is now just nine days old, (Jan. 30th, 1847.) Has been perfectly well till last night. About midnight it was observed to groan, and make a very distressing noise, which has been kept up with little intermission during this whole day. Can suck, but seems to be restless and uneasy, constantly opening the mouth, and protruding the tongue. Has kept the eyes closed all day, even when not asleep; has borborygmi, with looseness of the bowels, and manifests, in its actions and general appearance, so many of the symptoms of trismus, that the father felt satisfied that he would lose the child, as he had lost one before of this disease. The mother had it in her lap, lying on its back. The father said, that, having heard of the danger of a dorsal decubitus in producing this dreadful malady, they had been particular to keep the child on its sides, for the express purpose of preventing the disease. It lay usually in a cradle, day and night, with a pillow *cross-wise* under its head, which thus formed a concavity fitting the head exactly, and thereby preventing a *proper* lateral decubitus. The head was large, round and smooth, well-ossified—fontanelles very small. Occipital region felt smooth and regular, but by the application of the method so often alluded to, it was easy to detect a *slight* inward

displacement of the edges of the occiput, thus proving that the child had *never* been laid, for any length of time, on its side, the word of the parents "to the contrary, notwithstanding."

While examining the occiput, (the child being very quiet,) I pushed it in forcibly on the brain—the consequence was, that the displacement was now perceptible to the eye; whereas, before it could only be recognized by the touch. This pressing-in of the bone caused increased uneasiness to the child, as manifested by borborygmi, discharge of feces, a writhing about, opening the mouth, protrusion of the tongue, and a general restlessness. Before this disturbance of the bone, the child was lying perfectly quiet, and had been so for some time. Of course, I do not call this a case of trismus, because there was no permanent loss of the *suction* power, or control of the jaws; but it would, doubtless, have resulted in this, if nothing had been done. I gave no medicine, but instead of placing the pillow *crosswise* the cradle, I put it *lengthwise*; and showed the mother how to lay the child properly on the side. It was almost instantly relieved of *all* its little distresses, and never had the slightest symptom of a return of them. It slept sweetly all night, and next morning the occiput was *exterior* to the parietals. It was kept on the side for twenty-four hours longer, when the mother was allowed to lay it as she pleased.

Mr. Brewer's child, male, (born 7th Sept., 1847,) has never appeared to be well; cried and screamed all day, the day it was born. It is now between three and four weeks old, and *has never slept at all, unless when under the influence of an anodyne*; "never slept a wink yesterday;" is all the time restless; bowels in a very bad condition; passages curdled; has a dozen or more in the twenty-four hours; has a sort of straining, or bearing down, often, when the bowels are not moved; during these paroxysms of *straining*, the child turns red all over, and looks like the blood would gush out of its face. On the 9th and 10th days, it was taken with spasms, which are described as being intermittent, or clonic, and seemed to draw his head backwards. A dose of calomel had been given on the morning of the 9th, just before the access of the spasms. He has sucked well, vigorously all the time—has never vomited more than two or three times. Has been dosed constantly with paregoric and Dewees' carminative. Has taken, frequently, as much as twenty drops of paregoric, and twenty-five drops of the carminative, before quiet and sleep could be induced.

It is natural for infants to sleep almost all the time, unless when nursing; and when we find a child exhibiting the singular phenomenon of perpetual wakefulness, we must feel anxious to "know the why and the wherefore." Physicians had seen this child, and examined its head, to ascertain if there was any irregularity in the bones to account for all this derangement; but none was found. The child had been laid (as the parents say) on the side; but it had been kept in a cradle, and I affirm that it is impossible to lay a child *properly* on its side in a cradle as usually fixed.

Well, it was a fine, large child; cranial bones well ossified; head round, smooth, even and regular to the feel. No one could detect any irregularity in the relative position of the occipital and parietal bones by sight, nor even by touch, unless examined in the peculiar manner so often alluded to; and then there was no difficulty in ascertaining that the edges of the occiput were *underneath* those of the parietals. I placed the child properly on the side, on a pillow, *lengthwise* (in the cradle). At first, it was very restless, and I persevered for thirty minutes before the least effect was pro-

duced; after this, it went to sleep, slept well, and was quiet all day, for the first time in its life, without the administration of an anodyne. The bowels got in a good condition immediately after a proper position was instituted, so as to take the pressure from the occiput, and allow it to gain its normal relations. I saw the child six days afterwards, and found the occiput *exterior*, requiring, however, a nice examination to detect it.

I could relate several cases more of this *trismoid affection*, but there is such a sameness in them, that these five will suffice. They are important, inasmuch as they are of not unfrequent occurrence, and constitute a class of infantile diseases that has never been understood. They are important, too, because, unless controlled, they progress slowly, but very surely, to a fatal termination; either by general convulsions, or by marasmus and exhaustion, the consequence of a prolonged diarrhœa.

Who, in a practice of ten years, cannot call to mind some similar case, where the little victim was dosed with carminatives, or purgatives, or astringents, or baths, or all? where, perhaps, the symptoms persisted for an indefinite period, despite of everything that could be done! or, where, may be, they were relieved speedily; and as the physician supposed, at the time, by the potency of his prescriptions; when, in reality, it resulted from an *accidental proper position* after a change of diaper, or removal from a bath. Does not this *accidental* way of curing the disease fully explain the secret of Dr. Eberle's* success in the treatment of trismus, by the application of blisters to the *neck* (and to the umbilicus)? What man in his senses would lay a child on its back when there was a blister on the nape of the neck? Does it not also explain the secret of cures effected in a case related by Professor Stone, of New Orleans, before the Physico-Medical Society, in which the mother smeared the child all over with sweet oil, and it was made whole? Was it the oil that effected the cure, or was it an accidental proper position afterwards?

A gentleman of my acquaintance, who has lost nearly fifty negro children of this disease, informs me that he once relieved one by administering a whisky-bath, but that he has bathed twenty in whisky since, without producing the least effect. Was it, then, the whisky that cured the child? Or, did it get well by a mere accident?

One of my own children, now eight years old, had trismus on the ninth day. The case was fully developed. It was nursed faithfully—too well—was held in the arms all the time. At last, after a night of the most painful anxiety, the mother, exhausted and dispirited, laid the child in bed, giving up all hope of its recovery. To the astonishment of all, my child was in a few hours well. The sudden change was always a mystery to me, till the discovery was made that now engages our attention.

But I leave these circumstantial cases for the present, and pass on with such as are not susceptible of doubt. This brings me to the consideration of a class of cases, in which *position* alone cannot rectify the displaced occiput. This peculiarity, so far as I have observed it, depends upon one of two conditions: either the bones are too well ossified, and, consequently, too much impacted against each other to allow of any motion whatever; or else the occiput may be so *malshaped* as to present a physical barrier to a proper rectification of it. And here a surgical operation becomes indispensable to the safety of the child.

I shall introduce this subject by relating a case that occurred to Professor Harrison, of New Orleans.

* *Western Lancet*, Oct. 1845.

CASE IX.—Professor Harrison, in a critique on my first paper, (*New Orleans Med. and Surg. Journal*, July, 1846, p. 90,) says—"The writer of this notice was called, Feb. 14th, 1845, to see the child of a gentleman residing in New Orleans. It was the third day from the birth of the child, and the father informed us that the labour had been a protracted one—that the child, soon after birth, had been seized with convulsions, which had been continued, at intervals of from one to three hours, up to the moment of our visit. We were also told that the physician who had been in attendance had retired, giving up the case as hopeless. The child's bowels had been evacuated, and it was a well-formed, stout infant.

"Upon examination, we found the patient extremely drowsy, as if suffering from cerebral congestion: we found, also, the pupils considerably dilated. There were no tonic spasms. During the examination, a convulsion came on, which lasted about ten minutes, and then ceased, leaving the child tranquil, as before. The examination being resumed, we discovered the injury spoken of by our author—namely, a depression of the occipital bone under the parietals. The depression was very great, but considerably greater on the right than on the left side.

"As warm baths, and, in short, everything usually resorted to in such cases, had been employed in vain, it struck us that the child might be relieved by an operation. We called on Dr. Hunt, and requested him to see the case with us, telling him the particulars, and mentioning that, if he agreed with us, we would, with the consent of the parents, perform the operation. Dr. Hunt coincided with us in the propriety of the operation, and having obtained the parent's consent, the operation was performed. It consisted in cutting down on the right side, where the greatest depression was—cutting through the soft union between the occipital and parietal bones with a common scalpel—and reducing the dislocation as much as possible, by means of the director found in the common pocket-case—using it as a lever.

"Immediately after the operation, the child was seized with a violent convulsion; but it was the last one it ever had. Up to the present time, (June 1st, 1846,) it has enjoyed uninterrupted good health, and is as fine and stout a child of its age as any in the city.

"In justice to Dr. Sims, we must also mention, that, in consequence of the wound on the right side, the child was kept reclining on its left. According to his views, this position may have had great influence in the happy issue of the case."

The following extract is from Professor Harrison's reply (dated New Orleans, Jan. 26th, 1847), to some inquiries touching this interesting case.

"The mother's recollection appears to be very distinct and positive. The information I gain from her is as follows:—The child was attacked with convulsions about twenty-four hours after birth. They were frequent and violent. The operation was performed fifty-five hours after birth, or thereabouts. The child had *not* taken the breast *before* the convulsions came on. It was tried once or twice, and on the first trial, the first convulsion occurred. It took the breast on the *second day after* the operation. I could not obtain the precise time, but the mother thinks the day *after* the operation, it swallowed a little milk and water. [*The italics are my own.*]

"The mother corrects an error into which I had fallen with regard to the convulsions after the operation. Instead of having but one, as I asserted in the *Journal*, she had them frequently for six hours, when they ceased entirely."

The *inability to suck* (which continued from birth till the second day after the operation), was alone sufficient to establish this as a case of trismus; but the convulsions appeared to mask almost every other feature. The point of most interest to me, however, is the operation, which Professor Harrison so successfully executed. The operation was greatly assisted by a proper position; for the convulsions did not cease till six hours afterwards; showing, that while the right side of the occipital bone had been elevated by the operation, the left had to get out by a slower, but seldom less certain, process, viz., that of position. Although a proper position will rectify the occipital displacement in the great majority of cases, still, my facts go to establish the justness, and, occasionally, absolute necessity, for resorting to the operation of Professor Harrison.

He deserves, and, I have no doubt, will receive, the credit of being the first to propose and to perform an operation for the cure of trismus nascentium.

It will be fortunate if we should be able to point out the peculiarities of such cases as will require surgical interference, so that we may proceed at once, without jeopardizing the life of the child by waiting the results of position.

With a view to this, I will relate

CASE X.—Dr. M———'s child, male, born on 10th Nov., 1846, after a labour of thirty-six hours. The doctor sent for me on the eleventh day, supposing that the child was suffering from the colic. For the first twenty-four hours, it had some difficulty about urinating. It had, for several days, a sort of belching, windy state of the bowels, attended by a writhing and constant moaning as if it had the colic—dejections small, frequent and curdled. Four days ago they were very copious, and of a yellowish-green; but for the last thirty-six hours it has been costive. It does not sleep at all—grunts and moans all the time, and occasionally screams out suddenly. Feet and hands have generally been cold. Had slight clonic spasms last night, for the first time. *Has not sucked at all* since yesterday. *Has never sucked very heartily*. Could not swallow last night. Would spit out every now and then, as it were, mechanically. The doctor did not think it had trismus—thought there was no occipital displacement.—Said the child had been kept carefully on its side to prevent the disease. Although the “gurgling in the bowels,” and general colicky symptoms were conspicuous, still, it was no difficult matter to see at once the true character of the disease. An examination of the occiput soon showed that its edges were *within* those of the parietal bones. I now wanted to be satisfied about its being “kept carefully on the side, to prevent the disease;” so I requested Mrs. M. to let me see her place it on its side. She laid it in the cradle, not on the back, nor on the side, (as I have before remarked,) but with its face turned in a direction diagonally between these two positions. Now, this is the position that every child is obliged to occupy that lies in a cradle—and why so? To prevent the child from falling out during the rocking process, the cradle is, of necessity, never more than half full of bedding. It has then to lie in a hollow, apparently scooped out just to fit the occupant. And if a child were laid properly on its side in such a murderous contrivance, it would be smothered directly; because its breathing would be obstructed by the pillow, or that portion of its bedding rising up by the sides of the cradle; so that it is obliged to lie, either on the back, or in this semi-lateral position, which as effectually prevents the occiput

(in well-ossified heads) from getting *exterior* to the parietals, as does pressure from the dorsal decubitus. True, it does not push the occiput any further under the parietals, for the weight of the head falls exactly on that part of the parietal embraced between its protuberance and the lambdoidal suture, which locks, as it were, the occiput up inside; whereas, when the weight of the head falls on that part between the protuberance and the edge of the orbit, (as in a *proper* lateral decubitus,) the lambdoidal edge, instead of being *shoved on* to the occiput, opens, and allows this bone to get on the outside of it. Once outside, the lateral position continued for a short time, causes a slight approximation of the lambdoidal edges of the parietal bones, which serve as points of support to the edges of the extruded occiput, forever preventing its return, and affording perfect immunity from danger during the most prolonged dorsal decubitus. But to return to the case.

It was a fine large child—head remarkably well ossified—anterior fontanelle not more than half an inch across. The occiput was very peculiar. From the protuberance up to the apex, the “*pars occipitalis*” appeared to be too much *curved inwards*; which evidently prevented it from getting exterior to the parietal bones. It seemed to be but slightly movable, and quite impacted, particularly towards the mastoid fontanelles. I had the child placed properly on its side.

For one hour afterwards, it seemed to complain a good deal, moaning and writhing about almost constantly; then it got apparently more easy, moaning and grunting only occasionally. It then fell asleep for an hour, but groaned every now and then. The mother said it had not rested so well, nor so long, in twenty-four hours. This induced me to hope that a perseverance with the lateral decubitus might possibly do some good; yet I explained to the Doctor that an operation would probably be necessary, before the bones could assume their normal relations; but, that I did not feel warranted in resorting to it, till we had tried a proper position for a reasonable length of time.

I left at two o'clock P. M., and at three, the child took spasms, and had them off and on for about three hours, when the Doctor applied cold water to the head, which appeared to modify in some degree the convulsive efforts, without controlling them. About ten o'clock, it got a great deal worse—tonic rigidity was extreme; clonic spasms more violent; and it died at 1 A. M., exhausted and asphyxiated.

The following notes were made at the visit next morning:

The navel had healed beautifully. The ossification of the cranial bones was more perfect than usual; the anterior fontanelle very small indeed.

The edges of the occiput are *under* the parietal bones. Generally, after death, the fœtal cranial bones are easily movable, the occiput being made to slide under, or over the edges of the parietals at will, by proper pressure with the fingers; but, in this case, there seems to be a perfect impaction; for the edges of the bones along the mastoid ends of the lambdoid suture can be made to slide (by considerable force), alternately over and under each other; while along that part of the suture from the curve of the occiput up to the posterior fontanelle, this bone remains obstinately under the parietals, despite of the strongest efforts to force it out. As before remarked, the occiput appeared to be too much *curved inwards*, which anatomical peculiarity accounts for the utter impossibility of rectifying its relative position.

I felt extremely anxious to ascertain whether this anomalous condition would present an insurmountable barrier to the rectification of the occiput, even by operation.

After long persuasion, Mrs. M. consented to let me make the attempt, provided it could be done without cutting. (For this proviso, I now feel thankful, as will be exhibited by a class of cases yet to be related.)

I ran a short, stout, narrow-bladed knife between the bones on the left side, about an inch from the posterior fontanelle, its point resting on the edge of the occiput; and making a lever of it, the edge of the parietal acting as the fulcrum, the occiput was prized out from under the parietal, and made gently to overlap it; but it instantly returned to its old position, by withdrawing the lever. I again prized it out, but it slipped back in like manner. I then prized it out, and had forcible pressure made on the edge of the parietal, so as to prevent its return, till I could in the same way prize it out along the right side; after which, the bone would remain in its proper position while the body was laid on the side; but would immediately return to its old place by laying it on the back. Thus proving, pretty clearly, that the child's life might have been saved, by a timely surgical operation.

It is very desirable to determine what cases will require surgical interference; and particularly, to determine how long we may safely wait, before we ought to resort to it. Life will occasionally depend upon the decision.

I would lay it down as a general rule, that, if the bones of the head were remarkably well ossified, if the occiput seemed to be immovably impacted under, and between the edges of the parietal bones, and then, if a *proper* lateral decubitus, persevered in for three or four hours, did not relieve or greatly ameliorate the prominent symptoms, I would feel no hesitation in resorting to Professor Harrison's operation (or a modification of it), for elevating the depressed bone.

We shall continue the consideration of this subject in a future number of this Journal.

ART. V.—*On the Causes operative in determining the Proportions of the Sexes at Birth.* By GOUVERNEUR EMERSON, M. D.

IN an article published in the American Journal of the Medical Sciences, (Nov., 1831,) we gave some results of statistical investigations into the births which had taken place in Philadelphia during the ten years embraced between 1821 and 1830. In viewing our tabular statements at that time, we were struck by the variations observed from year to year, not only in the totals, but in the proportions of the sexes. We entered into some investigations with the view of ascertaining whether influences might be detected in our locality affecting conceptions. This had been recently done in regard to Paris, by M. Villermé, and the results we arrived at were in singular accordance with his, showing that the population of Philadelphia was subjected to agencies tending to operate unfavorably upon its increase from

reproduction. We regarded these as chiefly dependent upon the prevalence of extreme heat, in summer, and the insalubrity of the first months of autumn.

Whilst recently engaged in making out another series of tables showing the vital statistics of Philadelphia, for the decennial period embracing the years between 1830 and 1840, we had our attention drawn to a new fact connected with the mystery of reproduction.*

In a table exhibiting the births during the ten years, one of the columns shows the excess of males over the females for each year. In passing the eye down this column, we were surprised to find the amount for 1833, reduced to only 38, whereas, in the preceding year, it had been 415, and generally, the preponderance of male over female births amounted to several hundreds per annum, being 6.29 per cent. for the whole decennial period. The total of births during the year 1833, was greater than that of the preceding year. Supposing that some error might exist in the calculations for this year, we consulted the original records at the Health Office, and satisfied ourselves that the computations had been correctly made.

In estimating the births for the months of April and May, 1833, we found that the males amounted to 532, and the females to 590, showing a *female* excess of 58, or about 10 per cent. Now these months include a period nine months after the time when the cholera prevailed, namely, August and September, 1832. It must be borne in mind that the ordinary average excess of male births, ascertained by former calculations, amounts to about 7 per cent., so that the diminution of male conceptions during the cholera, was at the rate of more than 17 per cent.

The effects of this epidemic upon the animal economy were not limited to those wrought through the disease alone; but included many strong moral and depressing influences exerted during most of the year, embracing the painful periods of anticipation and presence of the epidemic, with the secondary effects of the meagre diet generally adopted.

The amount of conceptions during six months subsequent to the commencement of the cholera, exhibit a preponderance of females.

				Males.	Females.
Thus, the conceptions in August 1832, as shown by					
the births in April 1833, were				272	286
The conceptions in September 1832, by the births of May 1833, were				260	304
"	"	October 1832,	" June 1833, "	285	283
"	"	November 1832,	" July 1833, "	304	296
"	"	December 1832,	" Aug. 1833, "	361	330
"	"	January 1833,	" Sept. 1833, "	344	352
				1826	1851

* We should, perhaps, limit this remark to reproduction so far as the human species is concerned, for we are aware that experimental observations have shown that with sheep and some other inferior animals, certain measures pursued in coupling have appeared to exert an influence in determining the sexes.

It is proper to state that a slight visitation of epidemic cholera occurred in 1834, chiefly in the month of October, and that the returns of births which took place in June 1835, show a considerable falling off in the male births, which, instead of 7, amounted to only about 4 per cent. To all who have a distinct recollection of the two occurrences, it must be well known, that the solicitude and other depressing agencies operated in a trifling degree, compared with what they did in the first visitation.*

In looking abroad to see whether any corroboration of the casual observation made in Philadelphia was furnished by other places where cholera had prevailed, in the absence of the necessary data in our own country, we appealed to the ample and accurate records of Paris, where, as is well known, the malignant cholera committed great ravages in 1832. Here we found, in a mass of no less than 33,367 births, a similar reduction in the proportion of the males, discovered in the Philadelphia reports. In addition to the confirmation of the singular fact thus furnished, the distinction made in Paris between the legitimate and illegitimate births, furnishes other evidence of a highly interesting nature, as will be perceived from the following statements.

* The births in Philadelphia, for each of the 21 years in which a registration has been kept, with the proportions of the sexes, and excess of males, are as follows:

	Males.	Females.	Totals.	Excess of male births.
1820(a)	1709	1501	3210	208
1821	2630	2417	5047	213
1822	3021	2701	5722	320
1823	2977	2836	5813	141
1824	3062	2771	5833	291
1825	3444	3181	6626	262
1826	3526	3219	6745	307
1827	3581	3452	7033	129
1828	3694	3506	7200	188
1829	3638	3357	6995	281
1830	3996	3632	7628	364
1831	3787	3555	7342	232
1832	3834	3419	7253	415
1833	3840	3802	7642	38
1834	3937	3635	7572	302
1835	4041	3815	7856	226
1836	3864	3544	7408	320
1837	4235	3953	8188	282
1838	3982	3798	7780	184
1839	3769	3493	7262	276
1840	4223	4010	8233	213

(a) Only nine months of this year are included in the returns.

An estimate of the births in Paris for 1832, gives of

	Males.	Females.	Total.
Legitimates, - -	11,288	10,557	21,845
Illegitimates, - -	5,032	4,853	9,885
	16,320	15,410	31,730
	15,410		
	910		

Taking the returns for the whole year 1832, the legitimate males exceed the females about $6\frac{1}{2}$ per cent., whilst the male excess with the illegitimate was about $3\frac{1}{2}$ per cent.

When, however, the births are computed for December alone, that is to say, the ninth month after the most fatal ravages of the cholera, we find the excess of males entirely lost, and, instead, a considerable female preponderance. Thus:

	Males.	Females.	Total.
The legitimates were, - -	645	679	1324
The illegitimates, - -	200	199	399
	845	878	1723

The births in Paris during 1833 were as follows :

		Totals.	
Males, legitimate, - - -	11,852	} 16,891	Males.
Do. illegitimate, - - -	5,039		
Females, legitimate, - - -	11,434	} 16,476	Females.
Do. illegitimate, - - -	5,042		
Excess of male births, - - -	415		

Of the grand total of births in Paris for 1833, the legitimate constitute 23,286, of which there were 11,852 males, and 11,434 females, showing an excess of males of only $3\frac{1}{2}$ per cent. The number of these born at home is 22,861, viz., 11,642 males, 11,219 females; showing an excess of males of about $3\frac{3}{4}$ per cent.

The legitimate births in hospitals were 425, of which 209 were males, and 215 females, giving a small female excess of the legitimate births in hospitals.

Now the portion of the population upon which the cholera of 1832 bore hardest, was unquestionably that made up of the *lower* classes—the same which furnishes most of the illegitimate births, and in which, immediately after the cholera, we find the usual male preponderance annihilated, and a small *excess of female births*.

In France, and elsewhere in Europe, it has been ascertained that the excess of male births is always less among the natural-born than with the legitimate. The results of estimates based upon a long series of annual observations in Paris, show that with the children born out of wedlock, the

proportion of males to females is as 23 to 22, an excess of males of only about 4 per cent. Among the legitimate births, there are 16 males to 15 females, or a male excess of about 6 per cent.

When we consider the Paris births in 1833, with regard to the particular arrondissements, as indicating the parts inhabited by the rich, who were nearly exempt from cholera, and the poor who perished by thousands, we find the following results.

In the 1st, 2d, 3d and 4th arrondissements, comprising the most populous and wealthy portion of the city, the total number of births was 6,664, of which 3,458 were males, and 3,206 females, being an excess in the males of nearly $7\frac{1}{2}$ per cent.

The legitimate births at home, representing that portion of the population best provided for, were 5,126, viz., 2,666 males, and 2,460 females, showing a male excess of about $7\frac{3}{4}$ per cent.

The illegitimate births at home amounted to 1511, viz., 779 males, and 732 females, showing a male excess of 6 per cent.

The births in the hospitals were so few as to make no sensible change in the results given.

Let us now go to those parts of Paris where the cholera prevailed with such fatal fury, that, between the 26th of March and 18th of April, 1832, it swept off no less than 10,476 victims, the number of persons attacked being estimated at 30,000, not including the milder cases.

These were the ill-ventilated districts embraced in the 8th, 9th, 10th and 12th arrondissements, where the poor and necessitous most abound.

The total of legitimate births at home was 6155, viz., 3137 males, and 3028 females, a male excess of about $3\frac{1}{4}$ per cent.

The legitimate births in hospitals were 301, viz., 179 males, and 188 females, a female excess of about 5 per cent.

The whole number of the illegitimate was 5617, viz., 2801 males, and 2816 females, showing a female excess of 15. Of these,

The illegitimate births at home were 1622, viz., 815 males, and 807 females, being a male excess of less than 1 per cent.

The illegitimate births at the hospitals were 3995, viz., 1986 males, and 2009 females, showing a female excess of 23.

The total amount of legitimate and illegitimate births in the 8th, 9th, 10th and 12th arrondissements was 12,139, of which the males were 6117, and the females 6022, showing a male excess of only about $1\frac{1}{2}$ per cent.

But it was in the 12th arrondissement that the greatest ravages of cholera were felt; and the births in this constitute about half of those reported for the 8th, 9th, 10th and 12th arrondissements, namely, 6134, of which 3046 were males, and 3088 females.

Among the legitimates born at home, in this arrondissement, amounting to 1599, the males were 793, the females 806. The illegitimate births in

hospitals were 3779, viz., 1860 males, and 1919 females, a female excess of 59.

Thus we find that, in the portions of Paris exempt from cholera in 1832, the births in 1833 show the unusually large excess of males of $7\frac{1}{2}$ to $7\frac{3}{4}$ per cent. Even among the illegitimate births, the male excess was swelled to 6 per cent. But in those parts of Paris which bore the brunt of the cholera, the male excess with the legitimate was reduced to $3\frac{1}{2}$ per cent., whilst, with the illegitimate, the female births actually preponderated.*

The reports we possess only show the Paris births in each arrondissement for the entire year, the monthly statements including the whole of the arrondissements. We are thus prevented from exhibiting the effects of the influences under investigation, as they operated in particular months in the separate arrondissements. This last, could it have been effected, would have been highly interesting.

An attentive inspection of the very extensive reports made in several of the most enlightened countries of Europe, has proved to us most conclusively, that every influence operating in a community to maintain a high state of physical health and energy, leads to an increase in the proportion of male births; whilst, on the contrary, every agency, whether moral or physical, the effect of which may be to reduce the forces of organic life, will diminish such preponderance. In many parts of Europe, where the general population is over-worked and under-fed, the excess of male births is very small. Throughout Prussia and France, the excess of male legitimate births is usually under 6 per cent., and in England about 5 per cent. for the kingdom at large. In Philadelphia, where the condition of the general population is so favourable, the male births generally exceed the female about 7 per cent., whilst, in the rural districts of the United States, and especially in those most newly settled, the predominance of male children is much greater.†

M. Quetelet, of Brussels, who has devoted much attention to subjects connected with the movements of population, in the course of one of his late most elaborate expositions, makes the following observation: "Il est

* Viewed in point of numbers, the Paris births in 1832 exhibit a considerable diminution, amounting to about 5 per cent. less than the number reported in 1833. In the monthly returns, the falling off first manifests itself in August, 1832, and continues to February, 1833, from which it would seem that influences unfavourable to reproduction set in about the month of December, 1831, and continued till May, 1832, a space of about six months, including the period when the cholera prevailed. About nine months afterwards, in 1833, the births experienced a sudden increase from 2053 to 2569. This seems to show that, about the month of June, 1832, there was a subsidence of the influences unfavourable to reproduction, which had been prevailing for some six months, followed by a restoration to extraordinary vigour, causing the male excess for the whole year to rise to 6, $7\frac{1}{2}$, and even $7\frac{3}{4}$ per cent, according to the classes of Parisian population.

† See American Journal of the Medical Sciences for Nov. 1827.

un fait remarquable, bien établi aujourd'hui quoiqu'on n'en connaisse point encore les causes, c'est qu'il naît annuellement plus de garçons que de filles."

We have not the presumption to attempt an explanation of the great primary law regulating the distribution of the sexes. But, at the same time, we believe that the facts just adduced, and others to which we shall refer, show causes—and some of these, more or less under human control—which operate in a very appreciable degree in determining the proportions of males and females in the human race.

Disease, exhausting labour, scanty and meagre diet, impure air, intemperance and other social evils, are depressing influences, the force of most of which bears much more heavily upon the inhabitants of cities than upon those of places less densely populated.

An examination of the returns made for many years in France, Belgium and England, embracing millions of births, shows everywhere a greater excess of males born in the rural population than in cities.* Here, then, are causes specified and always existing, which exert a decided influence in determining the proportions of the sexes born. When, however, we come to estimate the influence exerted upon large masses of people subjected to a pestilence singularly calculated to exhaust the physical energies, we view the subject as if placed in the focus of a magnifier. The depressing forces ordinarily existing we find capable of diminishing the males one or two per cent., whilst those exerted by a severe epidemic, like that experienced in Paris and Philadelphia, have brought down the ordinary male excess of about 6 or 7 per cent. to only 1 per cent. When the estimate is made so as to include the births in Philadelphia for the months of April and May, 1833, the conceptions of which took place in July and August, 1832, as well as the illegitimate births of Paris, we actually see the usual male excess annihilated and substituted by a female preponderance.

To exhibit this subject in a still stronger light, let us take the sum of male excess, and instead of comparing it with the whole amount of male births, consider it by itself. Suppose the sum of 400 to represent the excess of males in 10,000 city births, and 600 the excess of males in the same

* Observations collected in England of late years, and published in detail in the annual reports of the Registrar-General, show the preponderance of male births greatest in the northern and western divisions, including Wales; and it is precisely here where we should expect the powers of organic life manifested in a higher degree than in the southern divisions of the island, the seats of the metropolitan cities, where more ease, luxury, and effeminacy exist. In the *American Journal of the Medical Sciences* for January, 1844, p. 167, will be found an abstract from a report of the British Registrar-General for three years, during which there was a registration of the birth of 760,983 boys, and 725,689 girls. The excess of males in all the districts is 4.86 per cent., or in the proportion of 10,486 boys to 10,000 girls. In the northern and western divisions, the excess of boys amounts to 5.39 per cent., whilst in the southern and metropolitan districts, the males at birth exceed the females but 4.35 per cent.

number of country births. The excess of males in the first-named districts would, therefore, be 33 per cent., or one-third less than that in the more rural districts, and this under circumstances ordinarily existing. But when the agencies exerted by the prevalence of a severe epidemic like the cholera, are brought to bear upon the population, the male excess sinks about 80 per cent. below the ordinary average.

I believe it will be found that the extensive prevalence of every severe zymotic epidemic, or endemic disease; every occurrence, in fact, which exerts, either directly or indirectly, a decided depressing effect upon a community, will be indicated in the record of births by a conspicuous reduction in the proportion of males.

In our table showing the births in Philadelphia, there is a perceptible falling off in the preponderance of males, for the years 1837 and 1838.—This may, perhaps, be ascribed to the destruction of business and embarrassment so generally experienced, and which commenced in 1836. The intense anxiety and great distress which prevailed and was kept up for some years after the financial crisis, must certainly have operated strongly upon a large commercial and manufacturing community, and, like all other depressing influences, tended, by indirect means, to diminish the energies of organic life.

When a pestilence or violent epidemic passes through a community, it is generally the most feeble portion of the population that is swept off. The births soon after will exhibit an increase in the amount of males, because the parents will be those endowed with vital energies above the ordinary average, a proof of which is their exemption, or recovery, from disease.

We think there is strong reason to believe, that the institution of polygamy grew out of a preponderance in the amount of female population, induced, perhaps, by a scanty supply of food, or from the use of a description of diet not calculated to maintain a high condition of physical energy. Polygamy once established as a common usage, must tend to foster itself.

In conclusion, it appears to us that the proportions of the sexes at birth are, to a considerable extent, subjected to circumstances more or less under human control, and that all measures tending to lessen disease, and promote the welfare and comfort of a population, while they serve immediately to increase the capacities for profitable labour, tend also to promote the multiplication of the sex supplying the main physical power.

ART. VI.—*Excision of the Cervix Uteri for Carcinomatous Disease*.—By WASHINGTON L. ATLEE, M. D., Professor of Medical Chemistry in the Medical Department of Pennsylvania College, Philadelphia.

Nov. 11, 1846, I was requested to visit Mrs. W., a lady 46 years of age, whose husband is still living. She has had nine living children, the youngest of whom is twelve years old, and one miscarriage—the first gestation—when about three months advanced. She has always been regular in her menstrual periods until September, 1845, after which menstruation ceased. She subsequently became annoyed by a troublesome leucorrhœa, which continued all winter, occasionally being tinged with blood and matter. Early in April, 1846, after having been much fatigued by a long walk, she was attacked with violent uterine pains and copious hemorrhage, which forced her to bed. She kept her bed about one month, during the time suffering greatly, and becoming very much reduced in flesh and strength. She could now discover, by introducing her finger, something like a tumour in the vagina. After this attack, she again recruited her general health, but in the latter part of June, was again prostrated by bleeding, at which time she passed from the vagina something which, she said, resembled a portion of hollow skin about the length of the finger. The bleeding again ceased, but again recurred upon using injections prescribed by her physician. The case now assumed so serious an aspect that she came to Philadelphia for professional advice.

I examined the patient for the first time, on the day above stated, by the toucher, and again, on the 15th of the same month, by the speculum. My opinion of the case was requested by the husband to be given in writing, in order that it might be submitted to her physicians at home, and is as follows:—

“There is, in my opinion, a tumour, about two inches in diameter, of a flesh-colour, seated upon the posterior lip of the os uteri, and appears to have originated on its inferior border, and, developing itself towards the vagina, has extended the lip forwards and backwards, so as to invert the edges, without appreciably disturbing the integrity of the mucous tissue covering the anterior and posterior surfaces. The whole lower aspect of this tumour is ulcerated and covered with semi-botryoidal projections, which bleed upon handling. The tumour is seated upon a dense tissue, which dense tissue does not implicate the walls of the uterus, nor any point above the insertion of the upper part of the vagina. The uterus is retroverted, its body being easily felt, and capable of being well examined *per rectum*. The anterior lip of the os tincæ, the vagina throughout its whole extent, the ovaries and broad ligaments, are free from disease. No glandular enlargements are discoverable in the pelvic cavity, in the groin, or elsewhere, and the external genitals are healthy. There is no fetid discharge, no sharp lancinating pains, no constitutional symptoms. On the contrary, Mrs. W. appears in excellent health, enjoys refreshing sleep and good appetite, and is free from much suffering. The pulse is soft, full, and open, ranging between 80 and 90 when free from nervous excitement; its highest point, during the agitation antecedent to an instrumental examination, being only 104. The tongue is very slightly furred, and moist. The skin soft and moist—of good colour and temperature. Expression of countenance calm.

“Viewing these symptoms collectively, I consider Mrs. W.’s case one purely of ‘*carcinomatous ulcer*,’ in which the hardening of the tissue is *consecutive* to the existence of the ulceration, and not a case of ‘*ulcerated*

scirrhus,' or '*ulcerated cancer*,' in which the hardening of the tissue *precedes* the ulcer. This is a distinction of the utmost importance in deciding upon the propriety of any course of treatment, surgical or otherwise. [Vide *Colombat on Diseases of Females*, by Charles D. Meigs, M. D., 1845, p. 327.]

"Colombat says, 'a cutting instrument, under these circumstances, [*i. e.* in *carcinomatous ulcers*,] can always cut beyond the limits of the disease. It is in this condition, more than any other, that the operation is called for, and promises the best chance of success; because the ulceration, which has been developed from without inwards, reposes upon a secondary induration of no great depth.' [p. 328.]

"With this view of the nature of her disease, associated as it is with very favourable symptoms, appearing, indeed, as a local affection, I consider that an operation for the excision of the diseased structure perfectly justifiable, and affording, at this stage of its progress, the only chance of escape.

"The operation is not likely to be a very painful one. It has its dangers: bleeding from the wound, inflammation of the womb and its appendages, inflammation of the peritoneum, nervous shock, and lastly, the reproduction of the disease. The first four, although more or less dangerous, are within the power of remedial treatment, and every day's delay increases the hazard of all.

"Should Mrs. W., after weighing carefully all the circumstances connected with her case, and with the operation, conclude to avail herself of this last resource, and desire me to undertake her case, I shall feel bound, under this opinion, by a conscientious regard to professional duty and to the welfare of the patient, to accede; and I sincerely hope, through the blessing of God, that the means may prove successful.

"WASHINGTON L. ATLEE, M. D.

"*Philadelphia*, Nov. 17, 1846."

December 1st. The patient was taken to New York with the hope of getting relief, without resorting to surgical interference, and, after spending eight or nine days there, returned completely disheartened and unnerved. She had had severe floodings, was now much worse, and was suffering considerable gastric distress, and agony through the pelvic region.

11th. Dr. George McClellan examined the patient in consultation, and, agreeing in every particular with the above opinion, recommended the resort to the knife.

The same evening the patient sent for me, stated that she had weighed the matter well, had decided upon the operation, and desired me to perform it, wishing, at the same time, not to be informed of it until the day fixed for it. Pulse 84.

15th. The gastric disturbance was increased: there were considerable nausea and efforts to vomit. Pulse ranging from 88 to 104.

16th. Dr. Samuel G. Morton was now associated in the consultation. He examined the patient, and coincided with us in opinion as to the character of the disease and the propriety of an operation. Agreeably to a mutual understanding, the general health was now placed under Dr. Morton's special charge.

21st. The patient, having just passed through what was supposed to have been a menstrual period, and having recovered from the unpleasant symptoms mentioned, was considered in a proper condition for the operation, and accordingly I announced to her my intention to operate this morning at eleven

o'clock. She desired to have it postponed until to-morrow, but upon urging it upon her, she readily yielded to our decision.

The patient was placed upon a bed, her hips resting on its edge, in the position as for the operation of lithotomy, and well supported by assistants. Drs. George McClellan, Morton, Sharpless, Gilbert, Wiltbank, Grant, and Jno. McClellan, and several female friends, were present. With a forceps* constructed for the purpose, I seized the two opposite sides of the base of the tumour near the insertion of the vagina into the cervix uteri, and making gentle, but continued traction in the direction of the os externum, brought the posterior border of the tumour in sight. Its anterior part being still under the arch of the pubis, I gave the handle of the forceps into the hands of Dr. George McClellan, and applied the double-branched tenaculum high up on its anterior face, and brought that portion of the tumour down. Firmly maintaining the parts in that position, I now with my left index finger accomplished the delivery of the whole mass through the os externum. Dr. McC. taking charge of both traction-instruments, I seized a probe-pointed bistoury, wrapped for about two-thirds its length, and cut above the insertion of the forceps, from before backwards towards the perineum, guiding the knife and guarding the parts with the left index finger, until I made the section complete, and severed, by a horizontal cut, the whole of the diseased mass.† The uterus at once receded. The parts were now carefully examined by the eye, and no diseased structure appearing, a dossil of lint, charged with a powder composed of galls, tannin, and gum Arabic, was passed up to the cut surface of the uterus, a tampon of soft lint introduced, and the whole retained by a T bandage.

The section of the cervix did not resemble the cutting of scirrhus, but more that of the ordinary tissue of the uterus, and the structure cut seemed to be perfectly healthy, both in feel and appearance. Very little hemorrhage occurred—only one small artery spouted out, too insignificant to require attention, or to excite alarm. Nor was there any venous sinus opened.

The operation lasted four and a half minutes, and was borne by the patient with very little manifestations of pain—the most suffering having been produced by dragging down the uterus. No gastric disturbance was excited by these efforts, and the amount of force required to accomplish this object was much less than had been anticipated. Forty drops of black drop had been administered two hours before the operation, and fifteen more just before the patient was brought into the operating room. The

* These forceps are eight inches long, have scissor-handles, and a loose conical-pivot joint, similar to that in Siebold's obstetric forceps. The joint is placed at three and a half inches from the extremity of the handles, and from this point the blades are tapering and round, and curve gently upwards. The blades continue parallel to each other for five and a half inches, then curving outwardly, become flattened, and again meet in serratures at their extremities, which have a perpendicular width of half an inch. The forceps, when closed, therefore, forms, at its distal extremity, an oblate-spheroid, of one inch and a half conjugate diameter.

By this arrangement I was capable of introducing the blades separately, and of fixing their teeth upon any part of the pedicle of the tumour, and then locking them, I could firmly secure the diseased mass in the ellipsoid. The instrument answered an admirable purpose. It is far superior for this operation to the forceps of Museaux, and much more simple than that recommended by Colombat.

† The portion removed, it was thought, by those present, would weigh five or six ounces. A wax model was taken of it, and is in the museum of the Medical Department of Pennsylvania College.

bowels had been opened in the morning, and the bladder emptied just before the operation.

The patient was now conveyed to her room on the same bed used for the operation. A tendency to syncope followed, and arrow-root and brandy were exhibited. The extremities and surface became cold, the pulse feeble, and there were efforts to vomit. Aqua ammonia, in ten drop doses, was given at intervals, with brandy, arrow-root, and toast water. They were again rejected after accumulating, accompanied with the discharge of considerable flatus from the stomach at the same time. In taking drink, every swallow was followed by borborygmus.

These symptoms continued until about four o'clock, P. M. After this, there was very little gastric distress, the pulse began to be felt more sensibly, and the skin became warmer, the nose still remaining cold. The stimulants were now suspended, and cold water in teaspoonful doses substituted. The most distressing symptom now complained of, and which annoyed the patient from the beginning, was a strong desire to urinate, and this was supposed to be owing either to the styptic or the tampon. 7 P. M. Considered to be doing well. Had her lifted on to her own bed. Complains of cold feet. Relishes sago. 10 P. M. Has been quite calm for several hours, dozing some. Stomach quiet. Felt a little chilly, but asks occasionally to be fanned. Has some thirst, which is easily satisfied. Nose now warm, and reaction appears perfectly established. Pulse has ranged between 90 and 98, and is acquiring more volume. There has been no hemorrhage—a little bloody serum stained the cloths. Turned the patient upon her right side.

22d. 3 A. M. Complains of pain in the lower part of the abdomen, which was, in a measure, relieved by removing, with the catheter, about four ounces of healthy-looking urine, the first passed since the operation. Hands a good deal warmer; pulse 108, and fuller. Removed a portion of the lint from the vagina, which had dried, and adhered to the labia. Gave 3i spts. nitr. dulc., and, about an hour afterwards, ten drops of M'Munn's elixir of opium. 9½ A. M. Has had altogether a comfortable night—as much so as usual—troubled occasionally with colic pains, which she is liable to. Pulse 88. Two hours after this, I removed a portion of the tampon, and injected the vagina with warm flax-seed tea. Removed six ounces of healthy urine. 1 P. M. Enema of flaxseed tea, followed by a suppository of soap, and by saline injections. Complains of a tender and painful spot in the left groin, which has troubled her a long time before the operation. Applied a warm emollient cataplasm to the abdomen. 10 P. M. Found the patient in much pain and agitation, in consequence of an accumulation of urine. Relieved by catheter. Afterwards, I withdrew the balance of the tampon, which had become very hard and consolidated, and washed out the vagina well with flaxseed tea. Administered fifteen drops of elixir of opium, which soon made her quiet and easy. Enema operated about 4 P. M. Pulse to-day, 88—98. Tongue rather more coated, but moist. Less thirst.

23d. 7 A. M. Has had a most delightful night; sweet and refreshing sleep. Free from pain and soreness. Feels very comfortable, and says she is much better. Pulse 88. Used catheter. The serous discharge from the vagina more copious. Vaginal injections. Ordered thin chicken-broth. 4 P. M. Has had some chilliness; is now feverish; pulse 104; skin warm and dry. Lifted the patient to another bed. Had her clothing and bed changed. Says she is more comfortable. Used catheter; also

at 1 P. M. Urine containing a deposit of mucus. Ordered 5 grs. cryst. bicarb. pot. every two hours. Vaginal injections of a solution of the hypochlorite of lime. 12 M. During the evening, some tenderness over the hypogastrium, and left iliac region. Pulse 115. Catheterism. Much less mucus in the urine. Saline enema brought away feculent discharges, and the tenderness of the abdomen was somewhat relieved.

24th. 5 A. M. Pulse 118. Skin warm and dry. Tongue covered with a dense white coat. Some thirst. Abdominal tenderness the same. Catheterism. Examined per vaginam—not much heat or tenderness of the parts. Continued vaginal injections. Gave two teaspoonfuls of calcined magnesia. 1 P. M. Pulse has come down to 94. Magnesia operated twice, producing large, very feculent discharges; yellowish, and containing scybala. Catheterism. Has felt chilly about the thighs and arms, and complains of headache. 3 P. M. Considerable fever following the chill. Pulse 120, full and rather hard. Skin dry and warm. Complaints of headache and burning heat. Venesection until skin was relaxed, and pulse softened, requiring about eight ounces of blood. Followed by fifteen drops of elixir of opium. Discharge from vagina less sanguineous. Catheterism. 7 P. M. Very comfortable since, excepting a transient neuralgic pain attacking the two elbows, and which was relieved by a rubefacient. Pulse 110, soft, full and open. Skin rather relaxed; soft. Temples moist. 12 M. Rested well all evening; tenderness of abdomen much diminished. Catheterism and vaginal injections.

25th. 9 A. M. Has passed quite a comfortable night. Passed urine without the catheter with little effort, and with no pain. Pulse 104; soft. Skin soft and pleasant to the touch. Tongue slightly furred and moist. Says she feels well. Assists herself better, and has very little soreness of the abdomen. 10 P. M. Has complained much this evening of pain in the head.—Pulse 120, but soft. Skin soft. Drew about four ounces of blood from the temples by leeches. Pulse fell afterwards to 100. Entire relief to head, and feels very comfortable. Catheterism.

26th. 9 A. M. Found the patient taking her own breakfast, with the table at her bedside. Had a very comfortable night; slept all night; pulse 100. 9 P. M. Pulse 92—98. Had a slight paroxysm of fever this afternoon, which appears to be periodical. Ordered 1 gr. extract of bark [Wetherill's] every two hours, when free from fever.

28th. 10 A. M. Patient did not sleep much last night; complains of uneasiness in the head, left hip and groin; but has a warm moist skin, and moist tongue, and pulse ninety-two. The stomach has been quite irritable since 5 A. M.; vomiting at times greenish mucus, and distressed considerably with nausea. The abdomen is soft, not distended, free from pain and soreness. The irritability of stomach was supposed to be owing to some badly cooked prunes she had eaten the day before yesterday. Catheterism. Applied a spice plaster to the gastric region. Ordered a teaspoonful of magnesia in camphor water, wine whey, and occasional doses of aqua ammonia. 2 P. M. Gastric distress diminishing. Enema brought away some feculent discharge, containing prune skins. Skin moist and warm; pulse 94. Ordered two teaspoonfuls of magnesia. 9 P. M. The gastric disturbance has been gradually subsiding, and is now entirely gone. Has had several discharges from the bowels containing prune skins. Complains of some disturbance of the head, and good deal of heat, there being slight febrile excitement. *Note.* The patient had taken a dose of elixir of opium soon after having eaten prunes, which is supposed to have suspended diges-

tion. Being retained in the stomach and bowels, they were a source of irritation until discharged by medicine.

29th. 9 *A. M.* Has had a comfortable night. Bowels opened; no further evidence of undigested prunes. Pulse 90, soft; skin good; tongue moist and less furred. Complains of some confusion of head. 9 *P. M.* Pulse 87—100. Passed a good day; washed out the vagina with flaxseed tea and creasote, which brought away several small particles of dead tissue imbedded in muco-purulent discharge. A teaspoonful of the following mixture was ordered every two hours. *R.*—Emuls. acac. arab. ζ j; pilul. cærul. grs. iv.—*M.*

30th. 10 *A. M.* Rested tolerably well last night without an anodyne, excepting that she had a feeling of pressure on the bladder and a desire to urinate oftener than usual. Pulse 88—94; skin soft; tongue cleaner; washed out of the vagina more of the sphacelated tissue. Catheterism. Complains of cerebral disturbance. Ordered blisters behind the left ear. 9 *P. M.* Head and bladder better. A discharge of laudable sanguinolent pus.

Jan. 2d, 1847. 10 *A. M.* Has been getting along very well. Examined the wound with the speculum for the first time since the operation, Dr. Morton being present. The uterus is more elevated than before, the cut surface looks quite healthy, and is coated with lymph, and the lining membrane of the vagina has a healthy aspect. A slight abrasion of the wound was made by the speculum.

3d, 10 *A. M.* Passed a restless night in consequence of a noisy house [hotel]. Feels weak and exhausted. Ordered one grain of citras quin. et ferri three times a day, and occasional doses of assafetida.

8th. Examined the wound, is in good condition. Has used animal food daily for the last week.

11th. Wound looks well. Applied nitrate of silver to induce more rapid cicatrization. Dr. McClellan present.

14th. Patient has been sitting up these two days. Examined per vaginam et rectum. The uterus still somewhat retroverted.

16th. Wound looks healthy. Applied nitr. arg.; and again on the 23d.

31st. Up to the present date, I washed out the vagina myself daily with flaxseed tea and a solution of creasote. After this it was attended to by the nurse.

Feb. 2d. The application of the caustic to-day was accompanied with some bleeding. Supposed menstruation.

5th. Some sanguineous discharge from the vagina, which, having been preceded and accompanied by the ordinary menstrual symptoms, was considered as catamenial.

8th. Examined per vaginam by the toucher. The finger was stained with blood. The cut surface felt smooth and even.

14th. Examined through the speculum. The surface of the wound was disposed to throw out granulations, which, however, had a healthy aspect, but were too much elevated in the centre of the wound. Slight bleeding while examining.

17th. Examined the wound with Dr. McClellan. Its surface was becoming more prominent. The speculum employed to-day was glass, and was made by cutting a conical lamp chimney into sections of about four inches long, which answered the purpose admirably. While the speculum was in situ, the surface of the wound was well covered over with the acid nitrate of mercury, afterwards penciled with a stick of vegetable caustic,

a portion of which was also powdered and passed up against it upon some lint. The speculum was now stuffed with charpie, and the whole retained in position by the T bandage for about four hours.

18th. Examined the wound. Surface remained coated with caustic. Dr. Morton present.

24th. The granulations have increased; the wound has become more elevated in the centre, so as to make a rounded projection. Drs. McClellan and Morton being present, it was agreed to apply the caustic more effectually. In using the vegetable caustic this time, I continued applying the stick to the parts until it was melted down to a very sharp point. By means of this point I was able to penetrate into the substance of the structure just as readily as with the knife, and I continue to do so until I had completely disintegrated the whole of the diseased surface. The vagina was perfectly protected by means of the speculum. The speculum being stuffed with lint, it was retained for several hours by the T bandage. The lint having been first withdrawn, and the parts well syringed off with vinegar and water, the speculum was removed. In neither application of the vegetable caustic was there much suffering.

28th. Complains of considerable soreness of the vagina. Examined it; found it a good deal inflamed. An injection of a solution of sugar of lead and opium was used every two hours until it was relieved.

March 3d. Examined per vaginam. Inflammation much relieved. The lower surface of the uterus covered with sloughs, and the granulations all destroyed.

10th. The patient has been attacked with acute inflammation of the right kidney. She says that this is the third time that she has been so affected, twice previously to the operation. Cupping and leeching relieved her very much. Sloughing of the wound is going on well.

11th. In consequence of the uterus having become quite elevated, and the vagina contracted and elongated, the nurse could not so satisfactorily syringe off the sphacelating surface of the wound. I therefore again attended to this matter personally, and daily washed the wound through the speculum, and also detached the sloughs by means of the forceps as they became looser.

22d. The injections through the speculum have been continued daily. Sphacelation is nearly completed, the wound being nearly clean. There has been no bleeding since the last cauterization. The granulations have not sprung up again. All the parts seem in the most favorable condition. Drs. McClellan and Morton examined the parts with me to-day. All pleased. Applied the nitrate of silver lightly, to favour cicatrization.

25th. Ever since the nephritic attack, Mrs. W. has had something like remittent fever, with paroxysms at night. Her tongue has become red at the point, and is covered with a harsh fur towards the back part. Considerable gastric and intestinal irritation—flatulency—and globus hystericus. The distress being so great to-day, a blister was applied over the epigastrium, and one grain of blue mass was ordered every two hours through the day, and valerian at night.

26th. Much relieved. Passed a comfortable night. We again all examined the wound; looks well. The nitrate of silver was applied to a small raw surface.

There has been a discharge of pure laudable pus from the vagina ever since sphacelation commenced after the last application of the vegetable caustic.

30th. The patient has complained for several days of a very uneasy sensation in the larynx, and has a constant tendency to *screatus* or clearing-out, expectorating occasionally a portion of inspissated mucus. A spot tender to pressure was found upon the right side of the larynx. Ordered a blister as large as a shilling to be applied over it. This drew well, and afforded relief. She also received considerable relief from inhaling the following mixture. R.—Iodin., grs. vj; fol. cicutæ, grs. xij; æth. sulph. rectific. ʒi. M.

April 3d. Examined the wound; looks very healthy. The discharge consists of laudable pus, free from smell. The vagina is perfectly healthy in its aspect; has considerable tone, and is contracted.

14th. The patient was alarmed this evening by a large amount of healthy pus which flowed from the vagina, while in the act of defecating on the chamber. It was explained by supposing that an accumulation of pus had occurred in the upper part of the vaginal tube in consequence of a recumbent posture for forty-eight hours, there being, as it were, a cavity to contain it between the superior termination of the vagina and the body of the uterus in consequence of the absence of the tumour and of the os and cervix uteri.

24th. The wound has been examined regularly every two or three days. To-day Drs. McClellan, Morton, and myself examined it for the last time. The examination was carefully made through the speculum. The wound had a beautiful, smooth, even surface, and perfectly healthy aspect, and appeared covered with a thin epithelium. The os and cervix uteri were absent, and the body of the uterus below was excavated so as to form a hollow cone with apex above. The walls of the uterus, forming the base of this cone, were continued into the upper end of the vaginal tube. The vagina and external genitals were considered in a healthy condition. We severally expressed ourselves gratified with the favourable condition of the parts.

The patient's general health during the winter has not been good. She has been more or less annoyed with neuralgic, rheumatic and dyspeptic symptoms. Her pulse was generally eighty-four, but ranged as above stated. Tongue occasionally reddish at the end and edges, with a whitish fur; generally, however, it looked well. Although evidently cachectic, she is better in these respects, begins to relish food, and is preparing for her journey home to Pittsburgh.

May 4th. Mrs. W. left Philadelphia to return home. On the 8th, a telegraphic dispatch, dated at Pittsburgh, was received, saying that she arrived safely the evening before, was very glad to see her friends, and her friends rejoiced to see her. On the 10th, another message by telegraph made the melancholy announcement that she had died at 9 o'clock the previous evening [Sunday]. A post-mortem examination was immediately requested by telegraph, but was refused.

Remarks.—I offer no comment upon the above interesting case. The account is purely clinical, the notes having been made at the bed-side of the patient, and abridged to suit the pages of the Journal.

I refer your readers to the following authorities on this subject, viz:—*Duparque on the Uterus*, p. 351; *Colombat on Diseases of Females*, Prof. Meigs' edition, 1845, p. 327; *Lee on Tumours of the Uterus and Appendages*, pp. 95–108; *Lever on Organic Diseases of the Uterus*, p. 210; *Ashwell on Diseases of Women*, Goddard's edition, p. 295; *Simpson on Excision of the Cervix Uteri for Carcinomatous Disease*, Braithwaite's Retrospect, American edition, 1847, part 14th, p. 294.

ART. VII.—*Dissection of a Fungus Hæmatodes Oculi*. By W. CLAY WALLACE, M. D., New York.

To harden the tumour before examination, it was macerated in an alcoholic solution of corrosive sublimate, and after repeated washings it was again macerated in a solution of chloride of zinc. On separating the fissures at the apex, a number of small reddish stems similar to those supporting the minute flowers of a cauliflower, were seen to arise from the mass and support some of the crusts of the fungus. The tumour was opened mid-way between the apex and the optic nerve, and the encephaloid matter scraped away until the specimen was considerably injured before observing the principal stem.



Fig. 1 represents the tumour as it appeared after the removal of a portion of the encephaloid matter. The principal stem or trunk was firm as tendon, and hollow when opened longitudinally. At nearly two inches from its origin, the trunk divided into several branches from which, and from the trunk itself, the medullary matter proceeded. When the latter was examined with a microscope, it was found to consist of a series of fibres, and granules, as represented at fig. 2. Some of the granules (fig. 6), which had fallen to the bottom of the fluid in which the preparation was immersed, exhibited on the application of a higher magnifying power, nuclei and irregular extremities by which they had probably been attached to the fibres. Fig. 3 is a magnified view of a transverse section of the stem at 3 in the first figure. Fig. 5 is a similar section at 5, where it is divided. Fig. 4 is a magnified longitudinal segment.

The appearance of the preparation, which I still possess, favours the opinion that fungus hæmatodes belongs to the class of parasites, as ad-

vanced by Kluge and Meyen, who have endeavoured to show that the encephaloid tumour possesses a vascular system of its own.

It has been observed the fungus was mutilated during the examination; this account will, therefore, be regarded as a very imperfect contribution to the pathology of this deplorable disease.

ART. VIII.—*Occlusion and Rigidity of the Os Uteri and Vagina.* By
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AMONG the causes of rupture of the womb, enumerated in our monograph on that subject, in the last two numbers of this Journal, obliteration and extreme rigidity of the os uteri and of the vagina, were alluded to as of occasional occurrence. In connection with that inquiry, we collected all the instances that were within reach, of labours in which these complications were met with. This subject has received but little attention from medical men, and few text books on obstetrics make any allusion to it as a source of difficult labour, or to the treatment of this class of cases. Among those authors who refer to it, a considerable difference of opinion exists, as to the proper course to be pursued when such complications are met with; some appear to discountenance any intervention by operative procedure, while others, of equal respectability, recommend an early resort to division by the knife, of the occluded or strictured parts.

Most of the cases of reputed occlusion of the os uteri, are regarded by Baudelocque, Velpeau, Dewees, and Denman, as instances of undetected malposition of the uterus, by which the cervix is thrown backward to the sacrum, or to the one or the other side of the pelvis, and beyond reach of the finger. That error from this source has, in some instances, induced the attendant to make an artificial opening into the womb, the os being patent, but inaccessible, there can be no doubt; inasmuch as well attested instances of it* are recorded by Baudelocque and others.

We have thought that a series of cases of complete and partial obliteration of the os uteri and of the vagina, might prove instructive; as showing the consequences of neglect, the advantage gained by judicious interference, and as affording assistance in determining on the right course to be pursued.

1. *Cases of Complete Occlusion of the Os Uteri.*

CASE I.—An Irish woman, stout built, ætat. 28. Two years before, she fell down stairs at the fourth month of her first pregnancy, and at once had

* Mr. North, in *Lond. Med. Gaz.*, vol. xx. p. 392.

flooding and pain, which lasted two days. Instruments were applied, and the patient delivered, during which she suffered great pain, and had dreadful flooding, fainting, and depression. A discharge of pus succeeded, and lasted until the second pregnancy.

The physician was called at noon. She had had strong pains since the preceding evening, but no show. The pains were urgent and powerful, forcing low down into the vagina, a dense, globular tumour, consisting of the head covered by the uterus. No os uteri could be felt, but where it should be, a firm hard point with three ridges diverging from it. Opiates were given, which almost entirely put a stop to the pains during the afternoon and night. Pains returned at 7 A. M., powerful, and rupture of the womb was feared. While the finger rested on the central part, something was suddenly felt to tear, and after two pains the finger was passed into the rent. This enlarged in the direction of the three cicatrices, and by 5 P. M., the opening was so large, that the membranes burst. The head did not advance for three hours; giddiness and headache came on; she was delivered by forceps of a full-sized, living child. She was well in ten days, with a slight purulent discharge, which left her in one week afterward.—*Dr. Wright*, from the *Montreal Med. Gaz.*, in *Lond. Med. Gaz.*, 1846, p. 688.

CASE II.—Ætat. 40; good constitution; the mother of three children, the last having been born eight years before. Anteversion of the womb had been supposed to exist, and a pessary recommended.

At 6 A. M. she had been in labour thirty hours. No os uteri could be found with a probe or finger. The vagina was five inches in length, dry and swollen. The pains were regular and active. At 8 o'clock, A. M. in consultation, 4 P. M. was fixed for the performance of vaginal hysterotomy. The pains then not being very severe, it was deferred until 11 P. M. With a blunt pointed bistoury, an incision was made, of half an inch in length, layer by layer, through the uterus in the line between the bladder and rectum, and four ounces of liquor amnii escaped. This was crossed at right angles by another. There was no pain, or hemorrhage in the operation, and in one hour the child was born alive.

After the lochia ceased, a bougie was introduced frequently for some time. The aperture is now small and irregular, without a *cervix*. The catamenia returned in six weeks.

During the early months of gestation, she frequently injected strong lye of ashes, and even into the cavity of the womb (?) by a gum catheter, and at each time felt intolerable pain and also observed suppuration and detachment of the skin.—*Dr. Caffé* of Paris, from *Journ. Hebdom.* in *Arch. Gén.* See *Ryan's Journ.*, vol. vi., p. 87.

CASE III.—In the first labour, the head was impacted, and the vectis employed. In the second labour, the pains were active for twenty-four hours, and for four or five hours, excruciating. No os uteri was detected by the midwife. The os could now be felt, the size of a sixpence, and the space within the circle was extremely thin and tough, thinner than the surrounding uterus, hermetically sealing the womb. This membrane was divided with a gum-lancet, and in four pains the os was so dilated as to admit the head. The pains now became slight, ergot was given, and the vectis used.—*Mr. Tompkins*, *Lond. Lancet*, 1831-2, vol. i. p. 749.

CASE IV.—Ætat. 36, first child. The waters had dribbled away; no orifice was discoverable. On the descent of the head covered by the uterus, a thin portion was felt. A female catheter was passed through this, and then the finger. It tore like a thin membrane, the os dilated, and in an hour and a half, labour was terminated.—*Dr. Felix Hatin*, in *L'Experience*, Mai, 1839. See *Brit. and For. Rev.*, vol. ix. p. 263.

CASE V.—Ætat. 23 or 24, Irish, first child. At 7 P. M. she had been in strong pains since the preceding evening, but there was no show; pains urgent and powerful, and no os to be perceived after several hours. At 2 P. M. a firm, globular mass was forced into the vagina by every pain, but there was no break in the surface. For several hours more, the pains were unusually severe; castor oil was given. Where the os should be, there was a minute point, somewhat thinner than the surrounding parts.

She had menstruated for fourteen years; discharge, pale and scanty; no catamenia since her marriage, nine months before. A copious reddish discharge took place three days before labour. The pulse was 120, 130, and very irritable; pains violent; skin irregularly hot and cold; features anxious. The point referred to was punctured, and an incision made toward the bladder, and towards the rectum, of one and a half or two inches; the last incision was followed by a few drachms of dark blood. The incisions were not made *laterally*, for fear of wounding the arteries of the neck. Operation produced no suffering; pains abated a little, and returned. At 4 A. M. next day, under a strong pain, the edge of the incision tore suddenly to the right side, and soon afterward, during an examination, the other toward the left sacro-iliac junction, both without hemorrhage. She became faint; pulse 140, 150, and stimulants were required. In two hours, powerful pains recurred, and the head was born at 11 A. M. The pains becoming inefficient, stimuli were given. The child was born alive, and the mother recovered. The vagina was very short after recovery. There was no cervix, but a puckered, irregular orifice, admitting the tip of the finger, with three cicatrices radiating from it. The left mamma had no nipple.—*Mr. Tweedie*, *Guy's Hospital Reports*, vol. ii. p. 258.—(For a continuation of this, see Case XXII.)

CASE VI.—Three and a half years before, had twins; labour natural; but followed by puerperal fever, (?) from which she never entirely recovered. A putrid discharge continued for several months, and afterward appeared in the place of catamenia for two and a half years, when the menses appeared, and conception took place. The cervix had sloughed away, and the husband (a physician) now discovered that the os had become closed by an indurated membrane, which resembled a pig's bladder.

She was, as she supposed, three weeks beyond nine months, and had not felt the child for some time. There had been slight pains a few days before, which continued, but did not increase. Next day, Dr. Blundell detected a tendency to a dimple at the side of the os, and introduced a small sound through it. Soon afterward, she had violent bearing down pains. At midnight, there had been some discharge, but no opening was perceptible. The pulse was very rapid, and a most profuse perspiration broke out. She was left, and seen again at 10 A. M., and was then a little more collapsed. At noon, the os was found open, but the edges jagged, with a flap of tough, granular membrane, hanging from the posterior margin. Collapse increasing; the hand was introduced, and the child delivered

by version. Slight hemorrhage followed the removal of the placenta, and she died in a half hour afterward. The child appeared to have been dead for some days.—*Mr. Waller*, reported by *Mr. Tweedie*, in *Guy's Hosp. Reports*, vol. iv. p. 120.

CASE VII., VIII.—In both, the os was normally, exceedingly small, and the occlusion was produced by cellular membrane filling up the orifices. The lower part of the uterus was rendered tense and hard, so as, in one case, to resemble the bag of membranes. Case VIII. was fat and plethoric, and although bled four times, blood flowed from the mouth and nose at every pain, and she had been in labour eight days. Case VII. was in labour two days and nights. In both, the membrane was punctured by a female catheter—there was no laceration; delivery without assistance; children living.—From *Naegele's Thesis*. See *Ibid.*, p. 137.

CASE IX.—Ætat. 35; second labour; pains were felt August 14; the next day no os could be discovered, by the midwife or a surgeon who was called in, though the uterus was forced low into the vagina. In the evening of the 16th the pains were less frequent and strong, and she was delirious at night. When seen on the morning of the 17th she was exhausted and worn out. The womb, stretched over the head and attenuated, was pushed almost to the mouth of the vagina, but no os was perceptible. The scalpel was then used for making an os. She was delivered of a dead child by forceps, and died in the evening at the end of nearly three days.—*Ibid.*

CASES X., XI.—The os in both closed by a membrane united to the margin of the aperture. In one, the finger was introduced; in the other, the point of a female catheter—instruments were used in neither—both children were alive, and both mothers recovered.—*Ibid.*

CASE XII.—First pregnancy, during the whole of which she suffered from leucorrhœa. Labour commenced August 25th. There was no os, and on the 27th one was made by incision. Six hours afterward, she was delivered of a living child by forceps. Recovered well—the os retained the form of the incision—and the next labour was natural.—*Ibid.*

CASE XIII.—Ætat. 42; first pregnancy. Labour began May 2d; no os could be found. On the 4th an os was made by incision, and in twenty-two hours was delivered by forceps.—*Ibid.*

CASE XIV.—After miscarriage, extensive sloughing took place, embracing the os, leaving a contracted circle as a cicatrix. The head descended low, pushing the lower part of the uterus before it. After a considerable time, the strength being almost exhausted, a puncture was made by a bistoury, and an incision of considerable extent. The head was forced through, rending at right and left. Some alarming symptoms arose—the head was perforated and she was soon delivered. She recovered, and became pregnant again.—*Ibid.*, from *Dr. Gooch's Lectures*.

CASE XV.—First pregnancy. No orifice could be discovered to the womb notwithstanding most careful examinations. The vulva was occupied by a solid body which distended it. A consultation failed in finding

any opening to the womb. Convinced that the mother and child were in great peril, they decided to make an opening at the place of the os uteri. It was on the point of suffering a rupture. There was already a rent, involving a part of the thickness of the walls. This was the spot selected. Labour terminated spontaneously, and after it no cervix or os could be discovered. After two months the opening closed itself by degrees, and no accident followed the operation.—*M. Lauverjat*. See *Dict. des Sci. Méd.*, vol. xxiii. p. 301.

CASE XVI.—Had been in labour fifteen or sixteen hours. Although the head was in the cavity of the pelvis near the vulva, no os could be felt by the midwife. The pains were very rapid and violent; M. Gautier first supposed it an obliquity of the womb, but after very careful examination no os could be found. The depth of the vagina was an inch in front, and an inch and a half behind. Vaginal hysterotomy was performed, and delivery effected by the forceps. There was some hemorrhage, but she soon recovered.

At the end of six weeks, the womb was very near the vulva, the vagina not being over an inch and a half long behind. These adhesions appeared to have been caused by a displacement of the womb, following a violent effort to vomit, by which the orifice of the womb was carried backward and the fundus over the pubes. Inflammation followed, uniting the mouth of the womb to the posterior wall of the vagina.—*M. Gautier*, in *Journ. de Méd.* See *Dict. des Sci. Méd.*, vol. xxiii.

CASE XVII.—M. Morlaune, of Metz, found the head enveloped in the womb, already engaged in the vulva. Notwithstanding most careful examinations, in all directions, no os could be discovered. He was satisfied that hysterotomy was the only resource, but did not dare to resort to it, because the woman was in the sixth day of an ataxic fever, and therefore had no hope of saving her.—*Journ. d'Accouch.*, vol. i. See *Dict. des Sci. Méd.*, vol. xxiii.

CASE XVIII.—Ætat. 30 years. January 11th, at the seventh month, on examination, in place of the os was a transverse bridle, seemingly a cicatrix.

Pains came on April 25th but produced no change in the neck. It was hoped that the os might become perceptible and open in the course of the labour, especially since a fluid like the liquor amnii tinged with meconium appeared. The 26th passed without any os appearing, though the pains were powerful and continuous and the head was engaged in the pelvis, pushing before it a corresponding portion of the womb. The entire hand was employed to explore the vagina to the *cul-de-sac*, and no opening found. After being forty-eight hours in labour, and the strength beginning to fail, a consultation determined to practice vaginal hysterotomy. This was performed fifty-six hours after the commencement of labour. Pains having ceased for many hours, the forceps were employed. Extraction was very difficult and the child dead. Recovery was favourable.

The incision had been made in the anterior wall with the *bistouri caché*. Eight days afterward the opening would scarcely admit a writing-quill. A sound was introduced but could not be borne. A small orifice remained, through which the menses escaped two months after delivery.—*MM. Lobstein, Flamant and Caillet*. See *Dict. des Sci. Méd.*, vol. xxiii.

CASE XIX.—The patient, the mother of several children, was taken in labour December 18th, 1843, at 7 P. M., and was seen by Dr. Bedford next day at 7 P. M. Her pains were violent and she suffered intensely. There was obliteration of the os uteri. Dr. B. made a bi-lateral section of the uterus, and in ten minutes afterwards the patient was delivered of a living child. Both did well without one untoward symptom. The obliteration was caused by attempts to produce miscarriage with an instrument.—*Prof. G. S. Bedford, in New York Journ. of Med., March 1843.*

CASE XX.—Ætat. 36; first labour. Physician called at 5 A. M., November 6th. Pains were decided and regular, but no os uteri could be found on careful examination. At evening the pains had increased and become expulsive, but no os could be found by him or by Prof. V. Mott, who had been sent for. During the night, nothing but a globular, smooth, uniform surface could be felt. Was first seen by Dr. Bedford at 1 P. M., November 7th, after having been in more or less active labour for forty hours. There was no trace of an os. Dr. B. made a bi-lateral section of the cervix, with a probe-pointed bistoury, “to within a line or two of the peritoneal cavity,” and the head was felt. The substance of the neck felt like cartilage. At 6 P. M., no increase of the opening; an incision was made in the posterior lip, and tart. emet. given. Nov. 8th, at 2 A. M., the incisions were enlarged, and two more made toward the ischiatic bones. At 11 A. M., opening somewhat enlarged and the parts hot. At 6 P. M., strength failed, pulse 140, the head at the brim, the opening of the womb not larger than a dollar, rigid and unyielding. Forceps were applied and, after great effort, the child was born alive. The mother suffered only from inability to pass water for two weeks. Mother and child both well three months afterward.—*Prof. Bedford, Amer. Journ. of the Med. Sciences, April 1848.*

CASE XXI.—Contraction of the pelvis and cohesion of the sides of the os uteri, leaving no vestige of a passage—the result of inflammation and suppuration following previous delivery.

After a labour of two days the vagina was dilated, which afforded a view of the contracted os. An incision a half inch deep was made and the head touched. The parts were of cartilaginous hardness, not yielding to pains, and requiring several subsequent incisions. The opening not yielding sufficiently, perforation was resorted to. High fever followed, and she died in twenty-four hours.—See *Smellie's Works*, vol iii. p. 55.

We propose to inquire into the *causes, pathological condition, termination if left alone, different modes of interference, and results of interference in this class of cases.*

In two instances, the lesion could be traced to inflammation following previous severe instrumental labour; in another, to inflammation, after an ordinary labour; and, in another, to inflammation following a previous miscarriage. In one instance it was caused by inflammation succeeding a descent of the womb into the vagina, after severe vomiting. In two it was the result of attempts to procure abortion, and in one it appeared due to a congenital malformation; no cervix being discovered in a subsequent delivery, and the patient having but one mamma,

As to the actual condition of the diseased parts, we learn that in case I., there was a tense globular tumour forced into the vagina, consisting of the head, covered by the uterus. No os uteri could be felt, but in its place was a firm point with three ridges diverging from it.

In Case II. there was considerable thickness of tissue divided by the knife, before the cavity of the womb was reached. In Cases IX., XIII., XVII., XX., no os uteri was perceptible. Case XII. had suffered from leucorrhœa during pregnancy, and there was no os uteri until the knife was used—the one thus made retained the form of the incision. Case XIV. had had sloughing of the whole cervix, leaving “a contracted circle” as a cicatrix.

In Case XV. there was no os, but rupture had already taken place in some of the uterine fibres. In Case XVI. there had been anteversion of the womb, followed by inflammation producing adhesions of the vagina and cervix, so as to render the os impervious. In Case XVIII. there was a transverse bridle, seemingly a cicatrix. In Case XIX. there was obliteration of the os and an irregularity of surface where the os should have been. In Cases XX. and XXI. the parts felt like cartilage. In most of these instances the source of the obstructed condition of the mouth of the womb is obvious enough; adhesions having formed, as a consequence of previous inflammation, and the condition itself was recognized by the hardened, irregular lines of cicatrization radiating from a single point, or encircling the cervix.

In several other instances, however, there was a condition of things productive of similar consequences and yet of a somewhat different character. In Case III. the os uteri could be felt, of the size of a sixpence, and the space within the circle was extremely thin and tough, thinner than the surrounding womb, and yet the womb was hermetically sealed by it. In Case IV. no orifice was discoverable, but on descent of the head a thinner portion of the uterus was felt, through which a female catheter was passed, and then the finger, and delivery was soon completed. In Case V. there was a minute point, thinner than the surrounding parts, where the os should have been. In Case VI. the cervix had sloughed and the os became closed by a membrane resembling a pig’s bladder. In Cases VII. and VIII. the occlusion was produced by cellular membrane filling up the orifice, and both yielded to the point of a female catheter. In Cases X., XI., the os was closed by a membrane united to the margin of the aperture, which was broken through in one case with the finger, and in the other by a female catheter.

The latter are examples of what Naegele has described as “conglutination of the os uteri,” in a thesis devoted to that subject. The obstruction in these cases, though removed by a slight force applied directly to it by a blunt instrument, is, nevertheless, such as very seriously to retard labour. According to Naegele, this closure of the os is due to a false membrane, or filamentous tissue, possessing a moderate degree of resistance, which he con-

siders the result of unsuspected inflammation of the neck of the womb. Dr. Ashwell (*Guy's Hosp. Reps.*, vol. iv.), adopts this explanation, and in remarking upon it, says, "It is well known, that normally, this orifice is sometimes very small; at others, instead of a transverse chink—its most usual form—there is merely a diminutive circular aperture. In either of these conditions of the orifice, complete obliteration may be easily produced, by an amount of local inflammation following conception, which would not seriously interfere with the pregnancy or the health of the individual. It is important to bear in mind, that such closure may not be attended by any other disease of the parts, the adhesions may be firm and complete, but there may be no scirrhus induration, no distinct nodule of hard substance; the neck of the uterus will be forced down by the pains; and the sensation imparted to the finger, on examination, during labour, will be quite natural, excepting only that no aperture will be found."

The inflammatory origin of these slighter degrees of obstruction of the os uteri is not allowed by some. Thus, Jacquemier, tom. ii. p. 181, asks, "Is this a veritable agglutination? Is this pretended plastic tissue anything more than a portion of exuberant membrana decidua? Do not these cases belong rather to some of those conditions of the cervix which render dilatation very difficult?"

The strength of the adventitious substance here deposited, varies, as we have seen, from that of cellular tissue, easily broken down, to that of a firmer consistence, requiring, as in Case III., a cutting instrument for its division. The history of Case VI. clearly points out the inflammatory origin of the obstructing membrane; so also in Case III., there had been difficulty in a previous delivery, and the membrane occluding the mouth of the womb was exceedingly thin and tough, hermetically sealing it. In both these instances, it is evident that the obliteration of the os must have taken place subsequent to impregnation. In both, it would appear that the inflammation of the cervix continued for some time after delivery; long enough for conception to have taken place; and that it finally terminated in the production of the false membrane. In Case V., there was probably a congenital defect in the structure of the cervix, as well as previous inflammation. The previous history of the remaining cases of conglutination of the os, throws no light on its origin in them. The degree of firmness which the membrane possesses, taken in connection with its origin in Cases III. and VI., renders it highly probable, that, as Dr. Ashwell suggests, it is due to inflammation occurring after conception, which does not render itself manifest by any distinct symptoms.

The *diagnosis* of obliteration of the os uteri is sometimes a matter of difficulty. As we have remarked, many practitioners of experience are disposed to deny the probability of its existence, and to attribute reputed cases to anteversion, while others, of equal experience, have more frequently met with instances of obliteration. Dr. Ashwell, in the paper

above quoted, says, "he never has met with any seriously protracted labours from obliquity," and yet, indisputable instances of it have been met with, in which it was productive of imminent hazard. Great embarrassment will, at any rate, be felt by the inexperienced, when obliquity exists in any considerable degree.

On failure to reach the os uteri in a vaginal examination, the probability of some form of obliquity of the womb would naturally present itself to the practitioner. Bearing in mind the different positions which the uterus might assume, he would carefully explore the whole pelvic cavity, if by chance, the os might be found in contact with the promontory of the sacrum, or one of the sides of the pelvis. Under the influence of uterine contraction, the head is forced into the hollow of the pelvis, forming a hard, tense, globular tumour, on the surface of which, any opening, did it exist, could be detected by the finger. If there have been considerable disorganization, the place where the os should be, is recognized by an indurated cicatrix, or if there be simple agglutination of the os, there will be a dimple or depression below the surface of the surrounding parts, indicating the situation of the uterine mouth.

Our cases, with a single exception, afford no illustration of the result, *when the patient is abandoned to the efforts of nature*. In Case XVII., the woman was allowed to remain undelivered, because sick with fever, of which alone she might have died. Case VI., however, is a valuable commentary on the practice of leaving such cases until the powers of the system are exhausted. In this instance, the unfortunate patient lingered along from day to day, and sank into a state of collapse from delay in affording her proper assistance.

When the os is obliterated, it is evident that the case must terminate either in rupture of the body of the womb, and escape of the fœtus into the peritoneal cavity, or in laceration of the morbid adhesions, after long continued pains, labour being completed with or without artificial aid, as in Cases I. and XV.,—or in exhaustion and death of the patient undelivered, as in Case VI. It is evident that these cases require careful watching and judicious management, and it becomes us to inquire as to *the proper time for interference, and the most suitable means to be adopted*.

Satisfied that obliteration of the os exists, our course will be determined very much by the character and degree of the morbid alterations. In cases of obstruction arising from the deposit of a thin filamentous or cellular tissue, Naegele recommends that it should be broken down by the introduction of a blunt instrument, as a female catheter, or by the finger. This, in Cases IV., VII., VIII., X., XI., was easily effected. The membrane occluding the os, although much thinner than the surrounding parts, is nevertheless, sometimes sufficiently firm to resist most powerful contractions, and to require division by a cutting instrument. In Case III., though the pains had been active for twenty-four hours, for four or five hours

excruciating, no advance had been made in labour, till the membrane was divided by a gum lancet, and then delivery was soon accomplished. In Case VI., the membrane was perforated, but a sufficient degree of dilatation did not take place to allow of version, until she was exhausted by protracted suffering.

Since, then, this membrane must be torn before the head can emerge from the womb, we know of nothing to be gained by waiting to see, if perchance nature will accomplish the laceration; and why ought we not, as soon as the expulsive pains have clearly revealed this obstruction, to destroy it artificially by such means as may be indicated? We see nothing to be gained by delay, or by preparatory venesections, &c.

If the existence of a comparatively thin, delicate false membrane, can cause serious delay to the parturient effort, how much more distinctly is artificial interference demanded, when the sides of the os uteri have become adherent from severe inflammation, and when no vestige of the natural structure remains; when, instead of a cellular tissue that may be torn by the finger, or a sound, we have a firmly organized adventitious deposit of perhaps cartilaginous hardness. There can be no doubt, that in such cases, an incision should be made into the womb, at the seat of the obliterated os. On this point, it is to be supposed, all intelligent persons would agree, and its propriety is placed beyond doubt, by the cases we have related. The question that would cause most embarrassment, would be as to the proper time for interference. Why should not the operation be performed so soon as we have satisfactory evidence that such obliteration exists? Are the risks attending the operation so great as the risks attending delay? Have we any encouragement to wait for the employment of venesection, diaphoretics, nauseants, and fomentations?

The reply afforded by the cases cited, to these inquiries, is distinctly, that nothing is gained by delay, but much periled by resorting to a palliative course of treatment; and that the chances of safety to mother and child, are much enhanced by an early resort to the vaginal section, before the patient's strength has been exhausted by protracted suffering. In Cases II., V., XII., XIX., XX., the lives of both mother and child were saved. In Cases XV. and XVI., the mothers recovered. In Cases XIV. and XVII., the mothers recovered, the children being dead. Cases IX. and XXI. were the only instances in which death occurred after vaginal hysterotomy. In one of these it was delayed until after the patient had sunk into a state of extreme prostration, and in the other until after a great many hours had elapsed. True, in some of the successful cases, symptoms of exhaustion had begun to manifest themselves, but the important lesson taught us is, that in almost every instance of occlusion of the womb, when let alone, nature proves incompetent to complete delivery; and that an artificial opening must be created. In Case I., she succeeded in lacerating the adhesions which had agglutinated the sides of the os, but she

could go no farther, and the uterus being fatigued out, the fœtus required to be removed by the forceps. A resort to depletory measures has usually been advised, previous to the operation; but the case is widely different from that of a rigid, yet patent undilated os. Furthermore, since laceration of the parts must take place in order to delivery, incisions should, in all such cases be preferred, since it may "perhaps be fairly assumed that the risk of unlimited laceration of the uterus and adjacent parts is much less, when incisions of tolerable extent have been discreetly made, than where merely a diminutive central aperture has been formed." (*Ashwell.*)

To Prof. Bedford of the University of New York, is, we believe, due the credit of having first performed the operation of vaginal hysterotomy, in this country, for entire occlusion of the os uteri. In both instances, he had the gratification of saving the lives of both mother and child.

The operation is usually performed with a bistoury or scalpel, taking the finger as a guide. In Case II., the incision was crucial. In Case V., it was made in a line between the bladder and rectum, to avoid the arteries of the side of the neck. In Cases XIX., XX., it was bi-lateral. In Case II., it stated that there was no hemorrhage or pain; in Case V., there was no "suffering."

II. Cases of Partial Closure of the Os Uteri.

CASE XXII. (A continuation of Case V.)—In her second confinement was taken in strong labour early in the morning of January 2d. The pains were most powerful, and by noon there was an opening into the uterus, through which the head could be felt, which had not dilated. Half a drachm of laudanum was given without effect. At 2, P. M., the opening was irregular, rather less than a penny in area, and bounded anteriorly by a strong, firm, unyielding, rigid edge—the cicatrix of former incision, upon which the head was forcibly impelled. There was no trace of cervix. At 6 P. M., no dilatation, pulse quick, skin hot, vagina becoming hot and dry. The stricture was divided, with almost no hemorrhage, and without pain. Pains lulled and she was faint; brandy and water was given her. In three-fourths of an hour there was an additional rent, and delivery soon took place. Child asphyxiated, but restored. Recovered in three weeks.—*Mr. Tweedie, Guy's Hosp. Reps.*, vol. iv. p. 119.

CASE XXIII.—Ætat. 31. Had extremely rigid os which, after waiting twenty-six hours, was dilated by the finger—which process required two hours. She died of peritonitis, and the whole cervix, the lower part of the body of the uterus, with the vagina, were gangrenous.—*Dr. Ashwell, Ibid.*, p. 141.

CASE XXIV.—First labour—eighth month. The os was about the size of a half-crown, but rigid and very thin. After continued efforts at dilatation the os was snapped; the parts gave way—there was much flooding, and she died on the fourth day.—*Smellie's Works*, vol. iii. p. 55.

CASE XXV.—Repeated and powerful attempts were made to dilate the os, and flooding and fainting were the result. Another attempt was then

made, the os feeling as if it were two inches thick. She died in convulsions, undelivered.—*Ibid.*

CASE XXVI.—A healthy country-woman, ætat. 35. A very small orifice was found, from which there issued a brown mucous fluid. Various attempts were made at dilatation and delivery. After two days of protracted suffering, she died undelivered, with ruptured womb.—*Guy's Hosp. Reps.*, vol. iv. p. 143, from *Nægele's Thesis*.

CASE XXVII.—First pregnancy—strong and robust—ætat. 28. Labour began on the 24th, when the membranes broke. On the 27th the os was hard and callous. Vapour baths and opiate ointments were employed until the 28th, when an incision of one and a half inches was made in the anterior lip. Delivery was completed by the forceps, during which the os was not torn any farther. The child was dead. She had a favourable recovery.—*Dr. Burdach, Medicinische Zeitung*, 1837. See *Brit. and For. Rev.*, vol. vi. p. 235.

CASE XXVIII.—A young girl. On the 6th pains came on and lasted all day; the membranes burst in the evening. The cervix was then thick and rigid, and the os equalled two centimetres. Next morning it was discovered to be a face presentation. At 1½ o'clock, P. M., the labour had not advanced. The patient was exhausted, and the os was incised on the right side, which produced slight relaxation. An incision on the left side was followed by copious hemorrhage. Forceps were tried, and also the lever, and failed. It was necessary to plug the vagina. At the end of half an hour the plug was removed, the os was dilated, and the labour was finished by the forceps. She recovered soon. The placenta was supposed to be partly over the cervix.—*M. Labordie*, in the *Practice of M. Dubois, Encyclograph. Méd.*, April 1846. See *N. Y. Journ. Med.*, &c., 1846.

CASE XXIX.—M. Caignon was called at 11 P. M. She was suffering from pains from fever, and was much exhausted. A tumour was felt posterior to the vagina, which was supposed to be the head. The os was partially dilated, and discharging decidua and fetid blood, and was turned toward the pubis. There were symptoms of severe peritonitis. Venesection, &c. were practiced. Next day, vaginal hysterotomy was proposed. Two days afterward an incision was made, to expose the fœtal head. The cyst contracted and a pain came on—a living fœtus was extracted—there was no hemorrhage. Died next day from exhaustion.

Post-mortem.—Left ovary softened and adherent to the cyst, and this was adherent to the uterus.—*Arch. Gén.*, Oct. 1830, from *N. Amer. Med. and Surg. Journ.*, vol. ix.

CASE XXX.—Ætat. 36; extremely emaciated and debilitated. Hemorrhage and very fetid discharges from the vagina, from the fifth month. Movements of the fœtus were very painful whenever it struck the parts within the pelvis. The os was two inches in diameter, and at least one inch thick. The pains were very violent—venesection—natural birth.—*Phil. Med. and Phys. Journ.*, vol. i. p. 386, *Dr. Sharpless*.

CASE XXXI.—Ætat. 40 years. Had strong convulsions at the time of *accouchement*, which lasted two days. She was alarmingly prostrated

The os was of the size of a piece of six livres, and could not be dilated. Hysterotomy was the only resource. Hardly had the incision been made before delivery took place spontaneously, and though apparently on the point of expiring, she rallied and recovered. The child was dead.—*Dubosc of Toulouse: see Dict. des Sci. Méd., vol. xxiii. p. 297.*

CASES XXXII., XXXIII.—Ætat. 26 or 27. She had been subjected to an operation at the age of 19, for artificial vagina, and just previous to marriage, five years before, the os was patent, yet small, admitting the end of the finger but totally unlike a natural os. During parturition this did not dilate, and was therefore incised in four directions; the head was perforated, and labour terminated without laceration—recovery was difficult and protracted. In a second labour, a year and a half after this, the os was again too small. It was again incised, and the head delivered by the forceps—the child was born alive. In neither labour did the os equal a sixpence in size, and in both the uterus was forced down external to the vulva so as to be in sight. She had three *natural* labours afterward.—*Mr. Butler, by Dr. Ashwell, Lond. Med. Gaz., vol. xx. p. 589.*

CASE XXXIV.—See Case XCVI. of our series in the January number of this journal. The fœtus was forced through the posterior part of the uterus into the rectum and expelled from the anus. The os was a firm cartilaginous ring. She recovered.

CASES XXXV., XXXVI., XXXVII., XXXVIII.—See Cases CVI., CVII., CVIII., CIX., of same series. The cervix was wholly or in part torn off by the violence of the pains. All recovered.

CASE XXXIX.—See Case CCVIII. of same series. Neck almost scirrhous—rent at posterior and lateral part of the womb. Died soon.

CASE XL.—See case CCLVIII. of same series. The whole os uteri burst off. Died in eleven days.

CASE XLI.—Large and fleshy; third labour; two previous labours very severe. When in labour one and a half hours, the os was quite near the vulva, with thin edges, about the size of a dollar, perfectly unyielding, and apparently a cicatrix anteriorly, extending upwards and outwards. 1 gr. of tart. emet. was given and repeated twice at intervals of fifteen minutes, producing only nausea. She had already flowed considerably. When in labour about two hours and a quarter, the head, covered by the uterus, was forced through the outlet and pressed upon the vulva, so as to be distinctly visible. There was imminent risk of laceration. The posterior part was incised to the depth of an eighth of an inch. The wound instantly enlarged itself, and in about three-fourths of an hour the child was born alive. She recovered.—*Dr. Buckminster, Am. Journ. Med. Sci., Oct. 1847.*

The causes of *partial*, like those of *complete* closure of the os uteri, are, inflammation from injuries received during previous deliveries or from other mechanical causes, and also organic disease.

Rigidity of the os is met with in every degree, from the not uncommon rigidity associated with firm fibre, to that depending on alteration of struc-

ture. It is not our purpose now to discuss the subject of ordinary rigidity of the os uteri. Ample directions for our conduct are found in most of the text books on midwifery, and it is but rarely that a case is met with that does not yield to the combined effects of venesection, tartar emetic and opium. Our object is to consider the proper treatment of cases which do not yield to these measures; whether the rigidity be due to a seeming indisposition in the structures to dilate, or to morbid changes, the result of inflammation, or to malignant disease of the cervix.

There may be no indication of organic change, and yet the os surrounded by a substance entirely undilatable. Thus in one of F. Ramsbotham's cases in a second labour—the first having been entirely favourable—the pains were exceedingly violent, and after a labour of fifty hours, the os equalled only a shilling in size. At this time, during a careful examination by the finger, the os was rent and she died on the fourth day of inflammation of the womb. When we have met with a case of obstinate rigidity of the os uteri, which has not yielded to a judicious trial of the agents ordinarily employed, what course is to be pursued? We have but three to choose from, viz: abandonment to nature, artificial dilatation, and incision.

The results of an *abandonment to nature* are the same as when the os is completely obliterated. In patients XXVI. and XXXIX. the patients died undelivered, from rupture of the womb. In Case XXXIV. there was laceration of the posterior wall of the womb, and of the rectum, and expulsion of the fœtus per anum. In cases XXXV., XXXVI., XXXVII., XXXVIII., the cervix was wholly or in part torn off—the patients recovering. In case XL. the whole os was torn off and the patient died. F. Ramsbotham relates a case in which the os uteri had entirely sloughed off, in consequence of the strong pressure to which it had been exposed for a great length of time.

Cases XXIII., XXIV., XXV., XXVI., afford no encouragement for the trial of artificial dilatation. Its adoption in each of these led to disastrous results, and so far as we are acquainted, the whole weight of obstetrical authority is against a resort to it. Our only resource, then, is a section of the rigid os.

To determine the proper time for the performance of this operation is probably more difficult than when complete obliteration of the os exists. In the latter case, the knowledge that an opening must be made by nature or art, and the conviction that art can make one with more discretion as regards the time, place and extent, will induce one to resort to it early and avoid the risks attendant upon delay. But in obstinate rigidity of the os, especially when unaccompanied by any distinct organic lesion, it may be more difficult to determine the proper time for interference. The duration and character of the labour, condition of the patient, both local and general, must all be considered; hence the responsibility of each case must in an eminent degree rest with the attendant.

We shall see by Cases XXII., XXVII., XXVIII., XXXI., XXXII., XXXIII., XLI., that the operation, when resorted to in season, is attended by the most favourable results. The incision, so far from leading to more extensive and dangerous lacerations, under the continuance of pains, in none of these instances encroached on the peritoneal cavity; and being made in the most favourable directions, lead to no injury of the adjacent organs. The operation was, in the instances in which this point is alluded to, almost free from pain and loss of blood. In the only fatal instance we have found, the operation was resorted to *three days* after the patient was found "suffering from pains and fever and much exhausted." In some of the successful cases, the operation was deferred until symptoms of exhaustion began to manifest themselves, but they nevertheless rallied.

Bearing in mind the danger incurred by the patient, of rupture of the body of the womb, of unlimited laceration of the cervix, and, it may be of sloughing, that may follow long-continued pressure; and, considering that the risk attendant upon judicious incisions is very little, are we not encouraged to an early, rather than a deferred, resort to a section of the neck? In the measures usually adopted there is often no inconsiderable risk. Blood-letting, to produce any effect must be liberal, and we know that many constitutions do not well bear the loss of blood. Where the patient is robust, and the fibre firm, general depletion and nauseants, by producing relaxation of the general system may diminish local rigidity. But in the delicate and anæmic, venesection to any considerable extent could not be borne, and in such, a division of the parts must be made at an early period.

We think it may be fairly questioned, whether, after a moderate blood-letting and the use of tartar emetic, in case the rigidity does not yield, and any structural lesion can be detected, we ought to wait until symptoms of approaching exhaustion appear. Should not the occurrence of local heat and dryness, or of constitutional sympathy, be a signal for extending help? In Case XL. the woman had been in labour less than three hours, the vagina, &c., but a little while before, at least, were perfectly moist and distensible, and yet the incision was undoubtedly made at just the right time.

Since a spontaneous laceration of the rigid parts is the best that can be expected after a judicious use of relaxant measures has failed, what is to be gained by waiting until the patient is in a state of hopeless prostration before the knife is used? Our cases are too few to furnish statistics, of authority on this point, but they decidedly favour an early resort to division. There is a chance of safe delivery if left alone; but this chance is so much less than that after an early incision, that we would not feel justified in waiting long after a prudent trial of relaxants.

When obstruction of the os arises from malignant disease, it would appear that a resort to division is justifiable, earlier than in the cases we have been considering. Laceration is almost certain to take place, unless

an incision be made, and much suffering endured, when the greater portion of the circumference is implicated, or the disease far advanced. It would be interesting to learn the influence of an incision on the subsequent progress of the disease, when the operation is performed on it in its early stages. Whatever it may be, an incision will, in almost every instance, be necessary to secure the life of the child, and probably of the mother.

In the proceedings of the *Royal Med. and Chirurg. Society*, J. M. Arnott, Esq. reports a case in which the morbid growth occupied the anterior lip and right side of the womb, and equalled a large green walnut in size. The diseased mass and contracted os uteri were forced down almost into view, when a pain came on; hooks were fixed in the tumour, which was excised by a succession of strokes with curved scissors, and scarce any blood lost. The os immediately dilated, and in a quarter of an hour a living child was born. The mother recovered, and was well for several months. She died sixteen months after confinement, of the disease.—See *Lond. Med. Gaz.*, Dec. 1847, p. 1068.

According to Jacquemier, tom. ii. p. 176, of twenty-seven cases collected by M. Puchelt, five died during labour, nine a short time after confinement, ten recovered from confinement, and of the rest the result is unknown. Fifteen of the children were dead and ten living.

III. *Cases of Occlusion and Contraction of the Vagina.*

CASE XLII.—This patient had laceration of the bladder and vagina in severe labour, and in consequence, almost complete obliteration of the vagina. Eight years afterward, it presented in labour, a firm cicatrix, two inches from the orifice of the vagina, with a small perforation leading to the womb, the vagina beyond being perfectly healthy. After some delay, the stricture was divided in several places—the head descended—the pelvis being small, the head was perforated. During delivery the bladder and vagina were rent again, but healed afterward.—*Prof. McNaughten, N. York Med. and Phys. Journ.*, No. xxiv., 1827.

CASE XLIII.—The vagina was completely obliterated—four fingers breadth. An incision was made in its course, following a fistulous passage from the vulva to the uterus. The urethra was wanting—the child was expelled.—*Lond. Lancet*, 1827-8, vol. i. p. 385, from *Arch. Gén.*, Oct. 1827.

CASE XLIV.—Called to a primipara, in labour from one evening to the next. The head was far down, resisted by a thick vertical septum running from the recto-vaginal to the urethro-vaginal septum, around which the finger could be passed in and brought out. Ergot was given. The septum formed a band over the head, grew thinner, and snapped like a whip.—*Lond. and Edin. Monthly*, 1844, p. 801, from *L'Expérience*, April 1844.

CASE XLV.—Robust, ætat. 26; second labour. There was complete obstruction of the vagina a little above the mouth of the urethra, by a dense, striated membrane; the striæ radiating from the centre, as tense

cords. An orifice admitted a common probe. The pains were expulsive for several hours. At noon, a crucial incision was made through the membrane, which was thick, and tough, like tendon. At night, the head pressing on the perineum, and the soft parts being unyielding, the forceps were tried, and failed. Perforation was required; the head and shoulders offered great resistance; child unusually large; had a favourable recovery. She had been much injured in a previous labour.—*M. Davizac*, in *N. Orleans Med. Journ.*, March, 1845, p. 431.

CASE XLVI.—Third child. A membranous septum existed, across the vagina. In its centre was a small aperture admitting a small probe, through which the liquor amnii was discharged. This membrane was divided, and the patient safely delivered. The previous labour had been tedious.—*Dr. Richardson*, *Transylvania Journ. Med.*, 1829, in *Amer. Journ. Med. Sci.*, vol. iv.

CASE XLVII.—Mother of four. She had injected sulphuric acid into the vagina, to procure abortion. Severe inflammation followed, and obliteration of the upper two-thirds of the vagina. She went to the full time. After thirty-six hours' labour, an unsuccessful attempt was made to open a passage by the knife, and she died. The womb was rent for four or five inches on the left side. *M. Lombard*, *Rev. Méd.*, April, 1831. See *Amer. Journ. Med. Sci.*, vol. iv.

CASE XLVIII.—Ætat. 23. Her previous labour was severe. A stricture was now observed two and a-half inches within the vagina, and completely encircling it. It could be dilated to the size of a dollar; pains regular; ergot was given, and they became very violent; was bled largely to no purpose. The stricture was divided upwards and outwards; a dose of morphine given, and she rested during the night. Ergot was given in the morning, and she was delivered after a few hours of severe labour. Subsequently had loss of control of the bladder and bowels.—*Dr. Williams*, *Amer. Journ. Med. Sci.*, vol. xi.

CASE XLIX.—Ætat. 27. Had a very difficult labour two years before, followed by inflammation, and by closure of the vagina, which admitted only a goose quill. During labour, this membrane opposed the progress of the head. After six hours, the margin was divided for an inch on the left side, and at the end of an hour, one on the right side. The waters were black and offensive. She became faint, and the pains infrequent. She was safely delivered by forceps, of a living child. In her recovery, care was taken to prevent the formation of new adhesions.—*Dr. Hoillerein*, *Amer. Journ. Med. Sci.*, vol. xv. p. 407.

CASE L.—A contraction of the vagina, in consequence of a violent labour, which scarcely admitted the point of the finger, it being a thick, indurated cicatrix, and a callosity of the perineum that prevented her sitting down. After the first stage of labour, forty ounces of blood were taken, and she was safely delivered.—*Dr. Hamilton's Pract. Observations, Appendix*.

CASE LI.—Had a violent labour, followed by vaginitis, &c. In labour, five years afterward, a callous cicatrix, of the thickness of the finger, nar-

rowed the pelvic outlet so as not to admit a half crown. After trial with a crotchet, the cicatrix was divided, and delivery was speedily accomplished, but the patient died.—*Ibid.*

CASE LII.—Ætat. 28. The first labour was very tedious, and she had a narrow recovery. The head was detained at the perineum for two hours, without advancing, the pains being strong and frequent, by a strong callous band, across the vagina. This was divided, and she was delivered in a few minutes of a living child. The incision caused no pain, and but a drop or two of blood was lost. She recovered favourably.—*Ibid.*

CASE LIII.—Second child. She had been bled $\bar{z}$ xii., for rigidity of the os, and heat of the os and vagina. Under strong pains, the head descended enveloped in the uterus, and on reaching the os externum was thrown to the right side by a firm cicatrix, resulting from laceration in a previous labour. After six more pains, there being no relaxation of the cicatrix, the head advancing, and the os thrown toward the sacrum, she was placed on her feet, and bled “upwards of two quarts,” until she fainted. She was safely delivered by forceps, a half hour afterward, of a living child, and recovered rapidly.—*Dewees' Midwifery.*

CASE LIV.—When in labour sixteen hours, the pains being strong, the os externum scarcely admitting the finger, was close to the pubis, and distended. A bridle ran from the pubis to the perineum, opposing the passage of the head. Tobacco injections were twice tried, to no purpose. The bridle was then divided without apparent good. She was placed on her feet and bled, she became faint in the loss of $\bar{z}$ x. of blood; there was complete relaxation, and she was speedily delivered by forceps of a living child. Died on the sixth day, of cholera morbus.—*Ibid.*

CASE LV.—Second child. When twelve or fourteen hours in labour, the head distending the perineum, the os externum was no larger than a finger ring, and thrown close up to the pubis. A cicatrix ran down to the verge of the anus. Strong pains for several hours, produced no impression upon it. She was strong and healthy; the pulse now strong, frequent, and hard. She was bled to $\bar{z}$ xl with some benefit. She was then placed erect, and $\bar{z}$ xxv to $\bar{z}$ xxx more taken. She fainted, and was soon delivered of a healthy child by forceps. She recovered well, and was delivered three years afterwards in the same way.—*Ibid.*

CASE LVI.—Ætat. 43. A circular contraction from a previous labour. It was not divided, “for fear of increased laceration on the passage of the head.” Forceps were applied, and a living child delivered, “apparently without much injury to the vagina.”—*J. Ramsbotham's Midwifery*, p. 269.

CASE LVII.—The *os externum* was a small opening, scarcely admitting the finger, the contraction having been caused by inflammation, after tedious labour. The head threatened to pass through the anus. When in labour about two days, the parts were divided in front and behind. The head was perforated, and she recovered well.—*Ibid.*, p. 315.

CASE LVIII.—Second labour. The first was very protracted and instru-

mental. A circular cicatrix at the upper part of the vagina yielded a little, but another of a gristly nature surrounded the *os externum*, barely admitting the finger. The pains though powerful, were fruitless. The stricture was divided, and a living child delivered by the long forceps. Recovery was rapid and perfect.—*Ingleby's Obstet. Med.*, p. 115.

CASE LIX.—In her first labour she was delivered by forceps, and was supposed to have recovered. During pregnancy, the vagina was found to be nearly closed. At full term (Thursday night), after some hours, the *os externum* barely admitted the fore-finger, and within it, the vagina was closed by a membrane, which admitted only a probe. Through this foramen the waters were dribbling. Active pains ensued, on Saturday morning, the membrane was divided, and the arm felt in the vagina. The *os externum* was freely incised; much blood was lost, and she was delivered by version of a living child. She recovered well.—*Ibid.*

CASE LX.—Was delivered by forceps, after a difficult labour; a stricture was found far up the vagina. It gave way under strong pains, and delivery was natural.—*Ibid.*

CASE LXI.—A healthy young woman. When labour had fairly set in, no *os* could be found, and the vagina was scarce two inches in depth. An opiate was given, and rest procured for some hours. An incision was then made toward the cervix, the *os* reached, and in two hours she was safely delivered. During childhood, the vagina had cohered above, leaving a passage for the menses, which, after impregnation, closed up.—*Dr. Hamilton. See Guy's Hosp. Reps.*, vol. iv. p. 123.

CASE LXII.—(See case CLXII. of Cases of Rupture.) Firm bands obstructed the vagina—delivery natural after three days—*died*. A *rent* was found in the vagina, opposite the sacral promontory.

CASE LXIII.—(See case CLXX. of same series.) A firm band obstructed the vagina—the bands were divided—rupture took place in the recto-vaginal septum, in an old cicatrix, four hours afterward.*

CASE LXIV.—Ætat. 28; robust; had had two children, the first still-born after severe labour, the second at the seventh month after an easy labour. Labour came on April 2d but went off entirely. It came on again on the 5th, at 2 A. M. On the 6th the womb ruptured, and she died on the 8th.

Post-mortem.—The womb was ruptured in front, transversely, just above the vagina. Vagina almost completely closed by a septum a half inch thick, and of very firm texture, with a small orifice, through which a quill

* For a case of complete procidentia of the gravid uterus in parturition, treated by incision of the vagina, see *Brit. and For. Med. Rev.*, vol. vi. p. 235, from *Dr. Burdach*, in *Medicinische Zeitung*, 1837.

For a case of absence of external organs and delivery through an incision, in the direction of the vagina, see *Lond. Lancet*, 1827–8, vol. i. p. 385, from *Arch. Gén.*, October 1827.

For another case of obstructed vagina, of which the result is not stated, see *Arch. Gén.*, vol. xv. p. 268.

of small size might be forced.—*Reported by Dr. Brainard, in Illinois Med. and Surg. Journ.*, May 1844. See *Meigs' Translat. of Colombat*.

CASE LXV.—Ætat. 16 years; had congenital narrowness of the vagina, which would not admit a goose-quill. After eleven years, she conceived, at the fifth month. The vagina began to dilate, and continued to do so till she was brought to bed and safely delivered.—*Boyer, in Méms. de l'Acad. des Sci.*, 1774, in *Colombat*, p. 99.

CASE LXVI.—Vagina so narrow as scarce to admit a quill. She became pregnant, and after three hours' labour gave birth to a large healthy child. The vagina dilated in one night.—*Ibid*.

CASE LXVII.—Vagina found narrow, so as scarce to admit a quill. She was safely delivered.—From *Brazilian Med. Rev.*, in *Lancette Francaise, Gaz. des Hôpitaux*, in *Colombat*, p. 99.

CASE LXVIII.—Ætat. 35, fourth confinement; full time. Called at 4 P. M. Waters escaped on the previous morning, and the pains commenced an hour after. Had procidentia uteri for a year, two or three inches being external. Cervix two or three inches without the vulva; firm, corrugated, and dry. At 4 A. M. next day, forceps applied, but the procidentia greatly increasing, were withdrawn, the tumour being eight inches long, and five in diameter. Soon after made an incision one and a half inches, and increased it one inch. Parts rent one and a half inches farther; child born alive; hemorrhage slight; substance of the cervix cartilaginous. Recovered.—*Amer. Jour. Med. Sci.*, Oct. 1846, *Dr. A. K. Gardner*.

Severe labour was the cause of most of the instances of contracted and obliterated vagina. It is distinctly stated in Cases XLII., XLV., XLVI., XLVIII., XLIX., L., LI., LII., LIII., LVI., LVII., LVIII., LIX., LX., LXIV., while it was probably the cause in some others. In Case XLVII. it arose from attempts to procure abortion; in Case LXI. from vaginitis during childhood; Case XLIV. was also a primipara; and, in Case LXV., the narrowness was congenital. In *Arch. Gén.*, vol. xviii. p. 471, Lisfranc reports a case of complete occlusion of the vagina, from neglected venereal ulcers.

Of those in which there was no active interference, in Cases XLIV. and LX. the obstructing bands were rent by force of the pains; in Cases LXV., LXVI., LXVII., the vagina dilated; and, in Case LVI., the patient was delivered by forceps. These all recovered. Cases L., LI., LIV., LV., yielded to venesection. Cases XLVII., LXII., LXIV., were let alone, and they died, as also Case XLVII., in which some attempt had been made to open the passage, but unsuccessfully, and rupture of the womb ensued. So that of the eight cases abandoned to nature, three were fatal.

Cases XLII., XLV., XLVI., XLVIII., XLIX., LI., LII., LVII., LVIII., LIX., LXI., in all twelve, recovered after incision of the obstructing membranes and tissues. Case LXIII. is the only instance of death after a

division of the obstacle, and in this case the rupture that caused the death occurred in an old cicatrix. The *four* cases attended by rupture of the uterus or vagina, show that that fearful accident is to be seriously apprehended when the impediment to delivery is allowed to continue.

If rupture of the womb is to be feared under the action of ordinary contractions, it certainly follows that the administration of ergot, with a view to overcome the obstacle by increased violence of the pains, is to be carefully avoided as hazardous in the extreme.

We have seen that in every instance but one, in which the stricture was divided, the woman recovered, while in several in which it was neglected, rupture of the womb or fatal exhaustion followed. Cases LXIV., LXV., LXVI., are remarkable exceptions, inasmuch as extreme contraction disappeared during labour and the delivery was natural. They show us what may, by possibility, happen; and yet the history of the other cases indicates that these are exceptions to a general rule.

Our cases show that while abandonment to nature is attended by great risks, division of the stricture by the knife is almost perfectly safe. Certain it is, that when the patient has been suffering during hours of agony, without any advance of the head, the artificial division, or spontaneous laceration of the opposing bands or cicatrices, has permitted almost immediate delivery.

Dewees recommends large abstractions of blood, and relates three instances in which it apparently proved successful. Hamilton also relates one, in which he practised the same. A truly formidable depletion was required in one at least, of Dewees', such as could not fail to peril the safety of almost any woman. We know of no other author who has recommended blood-letting to a similar extent.

The general safety of incisions, with the risk of dangerous laceration if left alone, must certainly encourage an early resort to the operation. It involves no important organs, is easy of performance, is attended by little pain, and almost always by only a trifling degree of hemorrhage, and is to be performed upon parts that must probably undergo spontaneous laceration before labour is completed.

These considerations point to the propriety of dividing the opposing structures, after a fair trial of relaxants, and before the powers of life have begun to yield from exhaustion, or the soft parts to suffer from long-continued pressure.

Dr. Ingleby advises that the incisions should be made during a pain. During convalescence, after a division of the stricture, the parts have a tendency to reunite, and this should be guarded against by appropriate management. So great is the risk of partial obliteration of the vagina from inflammation after severe labour, that Dr. Ingleby recommends an examination of the vagina in all instances of really difficult labour, within a month after delivery.

ART. IX.—*Operation for Artificial Anus.* By J. MASON WARREN, M. D.,
one of the Surgeons to the Massachusetts Gen. Hospital.

ARTIFICIAL anus is an affection generally caused by the sloughing of the intestine in strangulated hernia, although occasionally, the result of abscess and penetrating wounds. Sometimes a small portion only of the calibre of the intestine is destroyed, the bowel becomes attached to the parietes of the abdomen, and a fistulous opening is the result, usually amenable to the ordinary method of treatment. At other times a whole loop of the bowel sloughs off, and both ends of the intestine unite to the abdominal walls, leaving an opening from which the feces are constantly discharged, and only to be remedied by surgical means.

Cases of the latter character are of unusual occurrence, and the means for their strictly scientific treatment by surgical operation, have not, until within a few years, been fully established. The one I intend to relate is, I believe, the only instance successfully operated upon after the method of Dupuytren, in this part of the country, so far, at least, as my medical experience extends.

A patient with this affliction is one that may fully claim the sympathies of those called upon to administer to, and alleviate human suffering. Generally suspended, in the full possession of his mental faculties, between life and death, he is destined, unless relieved, to drag out a miserable existence, an object of disgust to himself and a burden to his friends, or to sink worn out by pain, and the emaciation produced by deficient nutrition. Great satisfaction must therefore be felt by the surgeon, if he can be the means of relieving so distressing a misfortune.

The patient with artificial anus, of whose case I propose to give an account, was sent to me by Dr. Brown, of Nova Scotia, in June, 1847. She was thirty-four years old, the mother of six children, and previous to the occurrence of the present accident, of good constitution. A small crural hernia had existed on the right side for an indefinite period of time.

Dr. Brown was called to her fourteen months previously, and found her labouring under a strangulated hernia of forty-eight hours' duration. An operation was immediately performed, but on opening the sac, the intestine was exposed in a gangrenous state. The stricture was therefore divided, and the intestine left in the wound. At the end of a week the sphacelated portion separated, and the feces flowed freely through the opening. After some time she partially regained her health, was able to sit up, and finally to work moderately, until the following September, when abscesses began to form in different parts of the thigh. From this period she gradually lost her flesh, and declined in strength. Two of the abscesses were opened by the lancet; the others, on the under surface of the limb, opened and discharged spontaneously. Pus at first issued, followed by fecal matter, and great suffering attended the effusion of the latter into the soft parts. Until within a few weeks previous to her coming under my care, there were oc-

casional fecal discharges per anum, but the greater proportion of matter was évacuated through the various fistulous openings.

The patient arrived in town in the early part of June, 1847, just after my term of service had expired at the hospital, but through the politeness of Dr. Townsend, who was then in attendance at that institution, she was placed under my charge. Her condition at that time was as follows:

She was extremely weak and emaciated; the countenance pale, nearly exsanguineous, indicating the almost total failure of the assimilating process. From long confinement she had become nervous and timorous, hardly allowing the slightest examination. And on the day subsequent to her entrance, she was so completely homesick, that notwithstanding the great trouble and expense undergone by her physician and friends to enable her to accomplish her journey to Boston, she insisted on returning home at once by the same vessel in which she came. After a day or two of consideration, however, and by a little persuasion, she was induced to change her mind on this point.

The position of the patient was almost entirely on her back. The feces in a very liquid state were constantly running out through two openings in the groin and three in the posterior part of the thigh. The right limb was drawn up almost to a right angle with the body, and the whole thigh much enlarged and hardened. The skin around the openings in the groin, had a red irritated look, was thickened almost to callosity, and excoriated. The openings were quite small, so as hardly to admit an instrument larger than a common director.

A nourishing diet was allowed and great cleanliness of the wounds enjoined, with the more especial object of preventing the painful excoriations.

The situation of the intestine could not at first be determined, which added to the embarrassment of the case. In those of a similar nature, which I had an opportunity of seeing abroad under the care of Dupuytren, the intestine opened on the surface of the abdomen by a large aperture, and there was no difficulty in exploring at once, the ends of the bowel with the finger, or by instruments. In the present instance the fistulous openings ran in every direction; those in the groin were immediately in the neighbourhood of the probable orifice of the artificial anus, allowing a probe to penetrate for its entire length.

I therefore determined to dilate the two latter openings, which was done very gradually by sponge-tents, on account of the sensitiveness of the patient to any manipulations, and it required the persevering application of this method for a month, before the two ends of the intestine could be with certainty distinguished. This, however, was finally accomplished, and a gum-elastic bougie passed into the upper and another into the lower orifices of the intestine. The bougie first penetrated through a thick callous mass of integument, then through the muscular or tendinous covering of the abdomen, in all about an inch in depth, when the septum or spur, as it has been called, which separates the two ends, was encountered and with difficulty entered, being so closely applied to the parietes of the abdomen as to prevent the least passage of matter from the upper into the lower part of the bowel. There had not been in fact, for two months, the slightest fecal discharge per anum. The intestinal ends seemed to lie parallel to each other, so that the bougies introduced for exploring made but a very slight angle. The patient still remained nervous and quite feeble.

I directed that the sponge-tents should be continued; also that a pint of oatmeal gruel should be given, per anum, daily, for the purpose, both of

stimulating the intestinal coats to the performance of their natural functions, and with the object of enlarging the calibre of the bowel, which must have become much contracted from long disease.

On the following day I found that some scybalæ had come away with the enema; and, on the next day, the injected fluid made its appearance at the apertures in the groin.

In the course of a few days the principal opening had become so dilated, that by a steady and patiently applied force, I could insinuate the little finger quite down to the intestine. The septum could now be distinctly felt lying against the wall of the abdomen, and be hooked up, so as to permit the end of the finger to be carried into the lower portion. The sensation of the valve was that of a delicate membrane, like the coronary valves of the aorta, though somewhat more resisting. A director was now carried down at the side of the finger for the purpose of keeping the valve open, a gum-elastic catheter passed in, and a quantity of warm water injected, to make sure that the lower orifice had been found. This water afterwards appeared, and was discharged per vias naturales.

The patient being well prepared, I determined to apply the enterotome, which was done July 12th. Having made sure of the lower opening by a director, as on the day previous, the male branch of Dupuytren's enterotome was carried into the lower intestine; the director was then withdrawn, and the female branch introduced with ease into the upper. The two parts of the instrument now occupied nearly the whole calibre of the dilated passage leading to the gut. It was necessary particularly to separate and lock them. This I found at once to be impossible, for the jaws of the female portion would not allow of sufficient motion at the hinge to lock with the other part of the instrument. If the intestine had opened directly on the abdominal surface, there would have been no difficulty, but the locking of the forceps under the existing circumstances was impracticable.

I therefore withdrew the instrument, and had recourse to another, which has since proved much better than the enterotome of Dupuytren. This instrument was about six inches in length; the handle was constructed with a screw-vice, and the joint with a movable pivot, as in that of Dupuytren: the blades, however, were different. In the place of one blade being received into a groove in the other, they were serrated, like the polypus forceps, for the space of three inches. The whole instrument was four inches and a half long, or about two inches shorter than that of Dupuytren. The blades being introduced in the manner already described were locked without difficulty, and at once brought together as tightly as the screw would permit.

On the next day I found her quite free from pain. She had complained a little for a few hours after the instrument had been put in place, but there was a question whether this might not have arisen from fear.

The fecal matters passed by the side of the instrument, and warm water was daily injected into the wound, to prevent any obstruction. She had also an enema daily, which kept the lower bowel in action.

On July 15th, three days after its application, the instrument came away. In the jaws of the forceps, and bearing the impress of the teeth, was a blackish slough, two inches and a half long, four lines wide, and about three thick. The finger, passed into the orifice, could distinguish an opening between the two ends of the intestine, corresponding in size to the slough, the edges of which were greatly thickened and fleshy, imparting a sensation entirely unlike the delicate valvular one of a few days previous.

This examination was conducted with the greatest delicacy, from fear of destroying the adhesions, which must have been, of course, at this early period, of the slightest kind.

In the afternoon she had a small fecal discharge through the wound. She complained of no pain, and there was no tenderness of the abdomen.

On the following day, the 16th, she was quite comfortable, had had a free dejection per anum from an enema, more slimy in its character than usual. There had been no discharge from the wound since the day before. A gentle compression was made by means of a compress and bandage on the openings in the groin, and the orifices ordered to be touched daily with the nitrate of silver.

The patient improved in health, rapidly acquired her strength, and there was no farther discharge at the artificial anus from the day of the separation of the instrument until she left the hospital, at which time the openings in the groin had almost completely cicatrized.

On July 29th, being very eager to return home, she was discharged from the institution at her own request, but against my wishes, as I was anxious to watch the progress of the case to its very close.

From a desire to learn the final result of this case, I have lately addressed a letter to Dr. Brown, of Horton, N. S., her physician, and received a reply bearing date May 5th, 1848. In his answer this gentleman informed me, that immediately upon her return my patient was greatly improved both in health and spirits, the feces had their natural exit, and everything looked very promising. In a short time, however, owing to over-indulgence in the use of coarse, flatulent food, and the want of that general surveillance so necessary for this class of patients, fecal matters had again appeared at the old orifice, as well as at several places on the hip, some of which were fresh outlets. This was the condition of things in December, when Dr. B. was summoned to a meeting of the legislature at Halifax.

"On my return in April," writes this gentleman, "about a week ago, I was quite taken by surprise to find our patient perfectly recovered, looking as plump and gay as ever, and busily employed about her house. Being in haste, and she being busy, I did not examine her, but she informed me, that all the ulcers as well as the original outlet were entirely healed, except one new one, and that had not discharged fecal matters for some time, and was in fact, nearly healed; that the hip had greatly decreased in size, and had assumed quite a natural appearance; that her bowels were entirely regular, and she could take any kind of food without the least inconvenience. She even said, she had not enjoyed so good general health for several years previous to her misfortune, as now."

On reviewing the above case it will be perceived, that it presented difficulties of a formidable character. In the first place the extreme debility and emaciation of the patient, and her great mental depression were obstacles almost as troublesome to contend with, as the disease itself. Twice after much labour had been expended, and some progress made in the preliminary treatment, she insisted on relinquishing it at once and returning home; and on the day when the instrument was to be applied, she declared that she was certain she must die the following night, and that it was quite useless to attempt the operation. These depressed turns generally passed off after a time, and then the patient was very urgent to have the treatment

continued, but for the moment they were sufficiently discouraging to the surgeon.

The numerous fistulous openings, with the effusion of fecal matter into the groin and back part of the thigh, occasioned considerable embarrassment in pursuing the treatment for discovering the end of the intestine. Added to this, and caused by it, the thighs were flexed nearly to a right angle with the body, and were constantly in the way of the instruments used for exploring the artificial openings.

The instrument used, I conceive to possess great advantages over that of Dupuytren. In fact, it consisted of, or may be almost exactly represented by a common pair of old-fashioned polypus forceps, with the branches detached and united by a movable pivot, instead of a fixed joint, the handles perforated with a screw-vice, and the jaws serrated throughout. It is less clumsy than that of Dupuytren, causes more complete strangulation, and does its work in less than half the time.* By an examination of the cases of this distinguished French surgeon, it will be found, that the enterotome generally separated about the seventh or eighth day: in the present instance it came away on the third, yet no effusion or other evil consequence resulted, although the patient was as little provided with the materials for forming plastic lymph as can well be imagined. She was in fact, almost exsanguineous.

In the relation of this case we have only mentioned the course of treatment ordinarily pursued by Dupuytren, without alluding to the methods of Physick, Gross, and others in this country, or in Europe, who have done so much to advance this branch of surgery.

A case of a similar kind to that narrated, occurred to me in an infant some years since, and, as it illustrates one of the accidents liable to take place at any moment in patients labouring under this unfortunate affection, namely, a prolapse of the ends of the bowel, the details may be here given.

I was requested by the medical attendant of the family to see an infant eight months old, and received the following history from him. He was first called to it when three weeks old: the parents stated to him, that for a few days subsequent to its birth it was in much distress, and had no alvine evacuation until the cord separated, when an exudation took place at the navel, followed by much relief. Shortly after, a small red tumour appeared at this spot, from the central portion of which the fecal evacuations occurred; there was no discharge per anum. He directed them to make use of a compress and bandage over the tumour, and under this treatment the child began to have evacuations by the anus, to gain strength and flesh. I advised that this treatment should be persevered in.

About two months subsequently, after a sudden exertion, a couple of tumours protruded from the navel, attended with some constitutional symptoms, and an entire stoppage of the evacuations. I saw the patient two days afterwards, and at once recognized a prolapsus of both ends of the intestine. The tumours lay across the abdomen, one to the right side, the

* I am not aware of the name of the inventor of this instrument, or whether it was constructed for the purpose for which it was employed in the former cases.

other to the left; one portion, which proved to be the lower, was dark-coloured, and more contracted than the other. The second, or upper part of the bowel, was larger, covered with mucus, and the vermicular motion could be distinctly seen in it. An effort had already been made to reduce them into the abdomen, but without effect; and a proposition had been made by some physician who had seen the case to apply a ligature to the root. This was done in doubt as to the exact nature of the affection; and, in fact, the parts were so changed, that they were with difficulty distinguished as belonging to the intestinal canal.

The child being cold, its pulse small, and having every appearance of rapidly sinking, I declined for the moment any operation, but advised stimulants, and agreed, if it revived, to attempt an operation on the following day for the purpose of returning the bowel.

On the next morning, the child having revived under the treatment suggested, the following operation was practised. A small neck or tunnel existed at the navel where the intestine protruded, being, in fact, the common everted orifice for the two openings of the bowel. An incision was made at this spot, being within the peritoneum, though protruded from the abdominal cavity. The two ends of the intestine as they issued, were now seized with a blunt hook, and slight traction made on them. The inverted portion gradually began to recede, and by continuing this manœuvre, at the same time using some external pressure on the tumour, it gradually returned into the interior of the abdomen. The neck of the tumour, where the incision was made, and which represented the tunnel shaped portion, was retained outside, so as to prevent the effusion of fecal matters through it into the peritoneum. Immediately on the return of the bowel, free evacuations took place from the anus, with great apparent relief. The patient, however, did not rally, but sunk, and died on the next day.

An examination after death presented no peritoneal inflammation, or effusion, and no attempt seemed to have been made by nature to close the incision of the operation, showing the low state of the vital powers at the time it was done. The upper portion, which had been returned, looked comparatively healthy: the lower was quite dark coloured, and showed the effects of the partial strangulation; an invagination of its coats for about an inch also was discerned.

Boston, May 30th, 1848.

ART. X.—*Poisoning by Arsenic Successfully Treated with Calcined Magnesia.* By EMORY BISSEL, M. D., of Norwalk, Conn.

PETER GALPIN, a labourer, aged 27, a powerful and robust young man, of intemperate habits, attempted suicide on the evening of the 4th of March last, by taking arsenic. As is often the fact, he was prompted to the deed by those horrors and remorse of conscience which so often succeed a debauch. The quantity taken, as nearly as could be determined, was not far from a scruple. When I was first apprised of the fact, two hours had elapsed from the time it was taken. I hastened the messenger who came for me as quickly back as possible, with some thirty grains of sulphate of zinc—in two doses—with directions to administer it as soon as he could

reach home, on horseback—distant about one mile—to give the second parcel in ten minutes, if needful. I followed as expeditiously as I could; when I arrived he had vomited freely twice, but without any relief. The family had given him copious draughts of a weak infusion of tobacco, which produced no other effect than to increase his sufferings, which at this time were extreme; so much so, that he begged me to kill him at once, if I could not end his pain in any other way. His pulse was one hundred and thirty per minute, small and wiry. He complained of great constriction and dryness of the fauces, but chiefly of a most agonizing pain and burning in the stomach; it seeming, as he expressed it, “as if it were filled with burning coals.” As nearly three hours had now elapsed, since the poison entered the stomach, I considered that any further effort to evacuate it would be futile, and that if life was saved at all, it must be by the antidotal power of some medicinal agent. Having had my attention directed to the experiments of Prof. Peter, of Transylvania University, and the case of Lepage, published in the January and April numbers of this Journal, in 1847, I determined to give the calcined magnesia a fair trial, and accordingly put it up in drachm doses, to be given every hour mixed in milk and water. During the hour which I remained with him, his symptoms were rapidly becoming more unfavourable. The pulse was one hundred and fifty per minute, the constriction and dryness of the fauces extreme, the whole surface bedewed with perspiration, the pain and burning sensation in the stomach seemed augmented to the highest possible degree, whilst the right hand was entirely paralyzed; in short, everything betokened a speedy dissolution. I left him at 10 o'clock, in charge of the mistress of the family, whom I knew to be an intelligent and faithful nurse. On visiting him the next morning, instead of finding him dead, as I much feared, I was most happily surprised to find him very quietly dozing in an easy chair. I learned from the lady, who had been unremitting in her care of him during the whole night, that in a very few minutes (not more than five or ten), after taking the first dose of magnesia, he said he felt much relieved, and before the time came for the second dose, he had fallen into a doze. She stated that each successive dose had produced the most surprising and marked mitigation of every symptom, and that long before morning he was entirely freed from suffering, and had, on the whole, passed a quiet and comfortable night. The bowels had moved freely and easily twice during the time. He complained of nothing save a general weakness, and a sort of faintness at the pit of the stomach. The right hand had recovered its power, and the pulse had fallen to eighty-five per minute. Directed to continue the magnesia, through the day, once in four hours, and to give light nourishment. On the sixth I made my third and last visit, as the young man seemed to require nothing but nursing, and a little time, for the recovery of his strength. I have since learned, that in a very few days he resumed his labour upon the farm, and felt no inconvenience from what he had taken, except a muscular weakness of the lower extremities, which was not very great. The case, in some of its aspects, much resembles that of Lepage, especially in the prompt and efficacious effects of the remedy, and the speedy recovery which followed. Should future cases yield results as gratifying as these two, we may indeed congratulate the profession in the possession of a sovereign and prompt antidote, always at hand and easily administered, to the dreadful poison by which such numbers of our race have found a terrific and agonizing death.

Norwalk, April 14th, 1848.

R E V I E W.

ART. XI.—*Practical Observations on Midwifery, and the Diseases incident to the Puerperal State.* By ALFRED H. MCCLINTOCK, M. D., F.R.C.S.I., Ex-assistent of the Dublin Lying-in Hospital; Vice-President of the Dublin Obstetric Society; and Lecturer on Midwifery and the Diseases of Women and Children in the School of Medicine, Park St.: and SAMUEL L. HARDY, M. D., F.R.C.S.I., Ex-assistent of the Dublin Lying-in Hospital, and Vice-president of the Dublin Obstetric Society. “Multum restat adhuc operis, multumque restabit; nec ulli nato post mille sæcula præcludetur occasio aliquid adhuc adjiciendi.”—*Seneca.* Dublin, 1848: 8vo., pp. 368.

THE present work is neither a system of midwifery, nor a systematic treatise upon the pathology and therapeutics of the puerperal state; it is one of even greater value and deeper interest to the practitioner of obstetrics, who will not fail to derive from the very excellent observations it contains upon the different subjects relating to the treatment of parturition and puerperal diseases, a large amount of practical information. It is, in fact, a careful exposition of the results of the practice of the Dublin Lying-in Hospital during the three years from January 1st, 1842, to January 1st, 1845; embracing a period when, under the care of one of the most experienced masters of the institution, Dr. Johnson, six thousand six hundred and thirty-four women were delivered in its wards.

It comprises numerous, very comprehensive, and well-arranged clinical and statistical tables, presenting almost every particular of importance connected with the statistics of the natural, tedious, difficult, preternatural and complex labours, twin births and funis presentations, and of the cases of convulsions and rupture of the uterus, which occurred in the institution during the above period. These several tables are useful as well as interesting; and we have the assurance of the authors that the fullest reliance may be placed on their accuracy.

The chief value of the work, however, consists in its practical observations upon the management of the different forms of labour, and upon the nature and treatment of the accidents of parturition, and of the more prominent of the puerperal diseases. In the preparation of this portion of the work, the authors state, that their main, they might almost say, their exclusive object has been to be as *practical* as possible, avoiding all speculative or unprofitable questions, and estimating the importance of each subject solely by its claims on our attention, and the interest it possesses at the *bedside* of the patient.

The strictly clinical character of these observations, the very favourable circumstances under which they were made, and the ample means afforded to the authors for testing their accuracy, press them strongly upon our notice. Valuable as is unquestionably the results of that experience which is derived from private practice, they can bear no comparison to those afforded by the practice of large and well-conducted public hospitals. This is true in all the departments of practical medicine and surgery, and

in none more so, than in that of obstetrics. The profession owe much to the gentlemen having charge of such institutions, who, while they have faithfully improved the opportunities which their situations present to them, have not withheld from their professional brethren, whose field for observation is more restricted, the result of their labours.

It has been already stated, that the report of the Dublin Lying-in Hospital, embodied in the volume before us, comprises a period, during which 6634 females were delivered in the institution. These women gave birth to 6702 children. The number of first labours was 2125, or nearly one-third.

The total number of deaths that took place, within the period specified, was 65, or *one* in every 102 cases. Thirty-five of these deaths occurred among the primiparæ. In eleven of the fatal cases, the causes of death were diseases altogether independent of the puerperal state, and in four others, the patients were, at the time of their admission, in a dying state. If these fifteen cases be deducted, the average mortality will be reduced to 1 in 132.

The total number of children, exclusive of abortions, which the 6634 women delivered in the hospital gave birth to, is stated to be 20,680; viz., 11,032 boys and 9,648 girls. The total number of males born in the hospital, during the period embraced in the report, was 3551, of whom 198 were born dead, and 62 in a putrid state; the total number of females amounted to 3151, of whom 127 were born dead, and 80 in a putrid state. Of the entire number of children, 108 were premature; viz., 52 boys, of whom 9 were dead born, and 15 in a putrid state,—and 56 girls, of whom 9 were dead born, and 22 in a putrid state.

“An interesting, and at the same time, a practical question here arises; viz., ‘What influence the premature death of the child has upon the duration of pregnancy?’ The most satisfactory way by which we can solve this question, is to ascertain, in cases of putrid births, the probable time at which the fœtus ceased to live. Where this is done, it will be very generally found, on close inquiry, that about ten days or a fortnight have elapsed since the period at which the rigor announcing the child’s death took place; or, in the absence of this indicative sign, since the mother last felt the fœtal movements. A knowledge of this singular fact, first remarked to us by Dr. Johnson, and which, with a few exceptions, fully accords with our own experience, will often prove of considerable value to the practitioner in cases of the premature death of the fœtus, by enabling him to qualify his prognosis, and to give such directions for the patient’s guidance as the circumstance of a near approaching confinement ought to suggest.”

In the case of twins, the authors remark, where one becomes blighted, it would seem as if Nature waived the law, just referred to, out of consideration for the living fœtus, and that, therefore, gestation in these cases proceeds undisturbed to the full period.

“There is another point connected with premature births, which possess some interest, and is deserving of attention; viz., that amongst them there occurs a much greater proportion of preternatural presentations—more especially of the lower extremities,—than takes place at the full term of pregnancy. Thus of the 108 premature children, above mentioned, 17 presented with the *breech*, 12 presented *footling*, and 9 with the *arm*, making, in all, 38, thereby giving a proportion of *one* out of every *three* cases nearly: whereas, at the full term of gestation, the frequency of preternatural presentations is only about *one* in *thirty*, between which and the former there is a vast difference.”

Under the head of natural labour, we are presented with some excellent remarks upon the use and management of the binder, and the mode of supporting the perinæum. The binder is directed to be applied immediately upon the birth of the child. The authors consider that it can

scarcely be questioned that a proper attention to the application, and the judicious management of the binder, promote the favourable separation of the placenta. In confirmation of this, they state that, in one instance only, throughout the period comprised in their report, and for two years previously, had the hand to be passed into the uterus for the removal of a placenta retained from hour-glass contraction; and in a very limited number of cases was it required in consequence of inaction.

The importance of the early and proper application of the binder, immediately upon the termination of every case of labour, is fully recognized by the leading obstetricians of this country, and strongly enforced in the writings and lectures of our writers on and teachers of midwifery; it cannot, however, be too frequently urged upon the young practitioner. It is not merely from the early application of the binder, however, that much good is to be obtained and not a little evil avoided, but equally from its proper adjustment. The practitioner would do well to adjust it himself in every instance; from the manner in which we have seen it put on by the generality of nurses, it is calculated to do but little good, if it be not, in some cases, productive of positive injury.

In guarding the perinæum, the injurious consequences of an error into which junior practitioners are apt to fall, in commencing its support too soon, are pointed out. By this procedure it is made dry and hot, and liable to become inflamed and rigid. The dilatation of the soft parts is not a merely mechanical, but a purely vital process; consequently, anything which tends to alter or derange the natural and healthy condition of these parts, will indispose them for expanding before the descending head of the child. Hence, it should be a main object to keep the perinæum as free as possible from all irritation, and for this reason, the authors advise that we should abstain from giving any support until the increasing thinness of the part, and the extreme tension of the fourchette, indicate that delivery is near at hand.

The whole of the authors' observations on this subject are highly judicious. A rupture of the perinæum is always a very serious accident, and the most distressing consequences may ensue even upon lacerations that do not involve either the rectum or its sphincters.

"Amongst the humble and working classes," our authors remark, "this accident is very apt to entail incurable prolapse of the uterus or bladder; for, when the support of the perinæum is gone, the chance of permanently restoring the displaced organ to its natural situation is small indeed, and the palliative measure of wearing a pessary is almost impracticable."

The importance of unremitting watchfulness during the ordinary convalescence from natural labour, in order to secure the patient's safe recovery, is very ably enforced. The circumstance of castor oil, the purgative generally administered within a day or two after labour, being ill-suited for patients who have hemorrhoids, as it is very apt in such to produce tenesmus, and considerable irritation of the rectum, must be familiar to every practitioner. There are some females, also, who have an unconquerable aversion to this medicine, and if prevailed on to swallow a dose, the stomach immediately rejects it. In both cases, we are assured that the following prescription of Dr. Johnson will be found to answer admirably well.—R.—Sulph. magnesiæ $\mathfrak{z}$ ss; carb. magnesiæ $\mathfrak{z}$ ss; infusi sennæ $\mathfrak{z}$ iss; tinct. sennæ $\mathfrak{z}$ ss; mannæ opt. $\mathfrak{z}$ ij; aqua cinnamomi $\mathfrak{z}$ ij. M. A wineglass for a dose.

"An observation," the authors remark, "has been made by the late Dr. Joseph Clarke (*Trans. of the Assoc. of the Coll. of Phys.*, Dublin, vol. i. 371), to the effect

that those females who suffer much from after-pains, usually have painful menstruation. This is a curious coincidence, the truth of which we have frequently verified, and we would extend its application to those cases where they occur with first children. In these instances, which are rare, it is most necessary to keep a vigilant eye over the patient, and to view the after-pains with much suspicion, as they are very apt to turn into actual inflammation, or, perhaps, to speak more correctly, to be induced by inflammation."

On three or four occasions, the authors have known cramps in the legs to have evidently taken the place of after-pains, and, in fact, to have completely supplanted them. These cramps came on soon after labour, and continued for some hours, during which period, and subsequently, the female was entirely free from all uterine pain, although she had suffered from after-pains in her previous confinement; at the same time, the discharge of coagula from the uterus showed that there existed adequate cause for the production of after-pains, while the cramps were materially lessened or removed by the same treatment that is ordinarily successful in suspending after-pains.

When there exists a disposition to sore nipples, or where the female has suffered from this cause after her previous confinements, the authors advise that the infant be withheld from the breast till after the secretion of the milk, and "until the breast has become 'free,' as it is appropriately termed." They also consider it objectionable to let the child draw the breasts whilst they are distended and painful from the first secretion of the milk, and when as yet it does not flow freely through the lactiferous tubes; from the frequent ineffectual attempts of the child to procure nourishment, excoriation of the nipple is liable to be produced, and this, in its turn, endangers inflammation of the gland. The tumid and painful state of the mammæ is, according to their experience, best relieved by frictions with warm oil, and if any febrile excitement attend—as is not uncommon—small and frequently repeated doses of tartar emetic, with some mild purgative. If, after friction of the breasts, they continue hard and tense, benefit is derived from keeping them enveloped in a piece of soft linen spread with a cerate composed of wax and olive oil, melted together, and having in the centre a hole cut for the nipple. This acts like a perpetual stupe, and keeps the breasts soft and relaxed.

They feel persuaded that by attention to the above simple rules, many cases of mammary abscess may be prevented, in confirmation of which they mention that only two cases of suppuration of the breast occurred in the hospital during the three years of their report, and that Dr. Johnson, in his private practice, has always pursued the same plan with like success.

When there is reason to dread an inflammation of the breast, the child is entirely withheld from it, and the affected gland is kept soft by friction; if the nipple itself appears to be the seat of any inflammation, a bread and milk poultice is applied to it.

Among the various topical applications for sore nipples employed in the hospital, the tincture of catechu holds a high place; it is best adapted for the simply excoriated or abraded nipple; nearly similar to this, but more cleanly, is the solution of pure tannin, made by dissolving five grains in an ounce of distilled water. The following is a favourite lotion with Dr. Johnson, who has been in the habit of using it for many years.—R.—Sub. borat. sodæ ℥ij; cretæ precipitat. ℥i; spiritus vini, aquæ rosæ, āā ℥iij. M. This may be applied alternately with the following ointment, or the latter may be used alone. R.—Ceræ albæ ℥ivss; ol. amygdal. dulc. ℥i; mellis despumat. ℥ss. Dissolve fully by means of heat, and then gradually add

bals. Peruviani Ziiss. M. In some cases, benefit has been known to result from the use of tincture of galls and compound tincture of benzoin, in equal proportions.

"It is always well to have in mind a number of these different preparations, for it not unfrequently happens that one will answer our purpose when others have failed. For fissured nipples some authors strongly advise the application of solid nitrate of silver, but our experience does not permit us to speak of it. Dr. Johnson thinks it is sometimes a good remedy in such cases, at a remote period from delivery; but that during the puerperal state its use is not advantageous, as it is apt to be followed by mammary abscess."

Some excellent remarks follow, in relation to the treatment of mammary abscess, several cases of which are annually admitted into the chronic ward of the hospital, in poor women who have been confined at home, or who have been exposed to cold and hardship after leaving the institution. The points principally insisted upon are, that the matter be permitted to come very near the surface, almost until it begins to point, before the abscess is opened, but to avoid a spontaneous rupture of the abscess; that when an opening is made, it be sufficiently extensive, and outside the areola, to prevent a retraction of the nipple from ensuing. After all inflammatory action has subsided, applying to the breast a portion of lint moistened with a mixture of one part of spirits of wine, and six or eight parts of water, rendered warm before it is used—a very small bit of simple dressing being interposed over the orifice of the abscess—answers well, by promoting the contraction of the abscess, and removing the indolent and relaxed condition which the poulticing produces in the granulations and adjacent integument.

At a more advanced period, when all tenderness and inflammation have completely subsided, but the abscess continues to discharge, the authors direct the breast to be strapped with adhesive plaster, which they have found a very safe and effectual means for expediting the obliteration of the cavity of the abscess.

"The mode of applying the plaster is as follows: one long, narrow strip is first put tolerably tight round the base of the breast, so as partly to insulate the gland; other strips are then successively applied in such a manner as to envelope the whole, and exert upon it a moderate degree of compression; lastly, a small aperture, corresponding to that of the abscess, is cut to allow exit to the discharge. It is generally necessary, in two or three days, to renew the application of the plaster, as it becomes loose and displaced."

To such of our readers as are engaged in extensive practice, no apology will be necessary for the foregoing notice of subjects which, to the inexperienced, may appear of but trifling importance. To some, it is probable that the remarks of our authors may present nothing new, but to the major portion the excellent practical directions they inculcate cannot fail to prove acceptable, the opportunities for their application being of frequent occurrence.

The total number of cases of natural labour that occurred within the period to which the report before us refers, was 5842; of which 1752 were first pregnancies. Sixteen women, seven of whom were primiparæ, died amongst the natural cases, viz: *four* of uterine phlebitis, *two* of peritonitis, *two* of phthisis, *one* from mania, *one* of arthritis, *one* of sloughing of the uterus and vagina, *one* of laceration of the peritoneal coat of the uterus, *one* of pneumonia and bronchitis, *one* of scarlatina, *one* of anasarca, and *one* from a tumour compressing the trachea.

Such of the cases of natural labour as are deserving of particular notice, are detailed at length.

Appended to the cases of uterine phlebitis, we are presented with some interesting remarks in reference to the pathology and treatment of that most intractable disease. The authors think that there can be no doubt whatever that very many of the cases described by the older writers as instances of puerperal fever without any local inflammation, were nothing more nor less than examples of uterine phlebitis, in which the lesion of the veins was overlooked or disregarded; while of late years, the latter has been, in their opinion, a very—perhaps the most—frequent cause of the more insidious and fatal form of the fever of child-bed.

The following are, they conceive, the principal causes or circumstances which most frequently determine, or, in ordinary language, predispose to, the development of puerperal phlebitis.

"1. Mechanical injury of any kind inflicted on the uterus, as by protracted labour, by instruments, or by the hand introduced into its cavity. There is hardly any operation so much to be dreaded, on account of its after consequences, as that required for the extraction of a morbidly adherent placenta. In private practice this may not appear so striking, but in hospital practice its truth is beyond question. Dr. Lee seems disposed to attribute the production of metro-phlebitis to mechanical injury of some sort, sustained by the uterus during labour.

"2. The detention of a portion of the after-birth or membranes. This gives rise to a foul discharge, which may prove a source of irritation to the veins, either by absorption or by direct contact with their patent extremities on the internal surface of the uterus. The absorption of some morbid animal matter being the cause of puerperal fever, is no new idea. Mr. Charles White, of Manchester, in his *Treatise on the Management of Pregnant and Lying-in Women*, speaks of this as a fertile source of child-bed fevers: and by way of explanation, adds, that the womb is an organ, of all others, the most favourably formed to absorb.

"3. Hemorrhage. It is a well-established physiological fact, that the loss of blood promotes absorption, hence, we can in some measure understand how flooding, at the time of labour, operates in rendering women obnoxious to attacks of puerperal phlebitis. The comparatively uncontracted state of the uterus, which accompanies and follows profuse losses in the third stage of labour, is a circumstance which also tends to the same result, by leaving the mouths of the veins on the raw, internal surface of the organ, incompletely closed.—(*Hasse*). "The great mortality amongst cases of placenta prævia, where turning has been performed, is well known, and in a large proportion of instances, is owing to the supervention of phlebitis, whose production here may be ascribed to the joint effect of the mechanical injury arising from the introduction of the hand, and the immoderate loss of blood. Dr. Merriman states, 'that he has known the phlegmasia dolens to follow this species of labour on many occasions.' The close connection subsisting between this complaint and the one under consideration, is generally acknowledged.

"4. Epidemic influence. No reasonable doubt can be entertained as to the sufficiency of this cause to call into action morbid derangement, which otherwise would not have taken place. Thus, during the prevalence of an epidemic, a patient will be attacked with the disease, under circumstances which, in its absence, would not have been attended with the slightest unfavourable results. The same state of the atmosphere that gives rise to erysipelas would seem to favour very much the development of puerperal fever generally, and this form in particular. Thus, during the last epidemic of puerperal fever in the Dublin lying-in hospital, erysipelas and diffuse inflammation were prevailing to a frightful extent in most of the surgical hospitals of the city, in so much that it was with extreme reluctance any operation was undertaken. In connection with this, we may be permitted to advert to two papers in the *Provincial Medical Journal*; one by Mr. Storrs, of Doncaster, and the other by Mr. Ebrington, of Birmingham, and to another by Dr. Peddy in the *Northern Journal of Medicine*; all of which go to establish the fact that puerperal fever of some form—most frequently the phlebitic—may be induced by the fomes or infection conveyed from erysipelas. This affinity or connection between the two diseases appears to have been recognized by some of the

older writers—Pouteau, Home, Young, Lowder, &c.—from their calling puerperal fever ‘an epidemic erysipelas of the peritonæum.’ In the year 1821, Dr. J. C. Douglass’s paper on this malady was written, and he therein observes: ‘The contagious puerperal fever of Dublin is, I venture to pronounce, nothing more nor less than a malignant fever of a typhoid character, accompanied with an erysipelatous inflammation of the peritoneal covering of the stomach, intestines, and other abdominal viscera.’ (*Dublin Hosp. Reports*, vol. iii.) Dr. S. Cusack, in speaking of his second or ‘low form of puerperal abdominal inflammation,’ expresses his conviction ‘that this disease, if not the same, is at least a modification of that known by the name of diffuse cellular inflammation.’ The description given by Dr. C. of his second form, so exactly corresponds, in its leading features, with uterine phlebitis, that we have little hesitation in pronouncing the two to be identical. It must be remembered that, at the time his essay was written (1828), the subject of uterine phlebitis was very imperfectly known in this country.” (Dr. C.’s paper was published in the *Edin. Med. and Surg. Journ.*, vol. xxxi.)

“Notwithstanding all that has been said or written to the contrary, we think that the contagiousness—or, to use the more explicit term suggested by Dr. Christison, the ‘communicability,’ of puerperal fever in all its forms, is a fact established on the most irrefragable evidence, so much so that it would now be almost criminal for any practitioner to act on the opposite assumption.

“Besides the above, which are the principal exciting causes, there are many others that are influential in rendering puerperal women obnoxious to attacks of metro-phlebitis, viz: mental depression or despondency; broken down or seriously impaired health at the time of labour; previous habits of intemperance or dissipation; the application of cold, or too early use of stimulants after delivery, &c. In proportion as two or more of the above predisposing causes coexist in any individual case, so will the liability of a patient’s being attacked be increased. This, indeed, is self-evident.”

So important is everything relating to the etiology and pathology of puerperal fever, many particulars in relation to which are still involved in obscurity, while upon many others there exists a very great difference of opinion among the most respectable and authoritative writers, our readers will pardon the length of the foregoing extract. Presented as the result of strictly clinical observations, the conclusions of Drs. M’Clinlock and Hardy are particularly interesting.

Our authors have very seldom found it possible to decide, with certainty, the existence of uterine phlebitis until the symptoms of the second stage—those, namely, which denote the admixture of puriform or septic matter with the sanguineous current—make their appearance, as it is these only which constitute the true pathognomonic symptoms of the disease. In the first stage, the symptoms assume more or less of the character of ordinary metritis. Among the principal of which, are noticed, rapid pulse, uterine tenderness and pain, preceded very commonly by rigor, foul tongue, depraved or scanty lochial discharge, tumid abdomen, recession of the milk, &c. The most constant of these symptoms is frequency of pulse. In some cases, the local distress scarcely attracts attention; even in these, however, an unusual degree of sensibility or tenderness of the uterus will be detected on direct pressure being made with the fingers upon the fundus and sides respectively of the uterus. The fact of uterine pain being sometimes entirely absent even in virulent or fatal cases, clearly shows that it is not an essential symptom.

When fully developed, the diagnostic symptoms of phlebitis constitute a most striking and remarkable assemblage. No defined or abrupt line of demarkation occurs between the first and second stages, the one passing gradually and imperceptibly into the other. In consequence, indeed, of its insidious mode of advance, the disease often makes considerable progress

before its true character is suspected, or it may happen that the first unequivocal intimation of its existence will be the appearance of some of its secondary affections, such as arthritis, ophthalmia, purulent deposit in the cellular tissue or muscles, &c.

"The symptoms which usually mark the second stage of uterine phlebitis are the following, viz: the occurrence of rigor not referable to any other cause; rapidity of pulse; a peculiar prostrated expression of the countenance, which becomes of a sallow colour; excited action of the arteries, most visible in those of the neck; gradually increasing debility; loss of appetite; profuse perspirations; diarrhœa; sleeplessness; foul and generally dry tongue; a disagreeable, nauseous smell on the patient's breath, most resembling raw meat; muscular tremors; and, occasionally, low delirium."

The vast importance that a correct diagnosis of uterine phlebitis should be made in its early stage, from the fact that it is only by an active treatment commenced at the very onset of the disease, we can hope to arrest its progress in perhaps the majority of cases, has induced us to present here, notwithstanding their length, the following observations by Drs. McClintock and Hardy on the individual symptoms and their relative importance.

"1. The occurrence of *rigors* is a very characteristic symptom of phlebitis, but it must be remembered that a rigor may arise from other causes; as milk fever, ephemeral fever (weed), or incipient inflammation. To estimate its value, therefore, as a diagnostic, it should be taken in connection with all the other symptoms, and the history of the case. The rigors of phlebitis may vary in intensity from a mere passing sensation of chilliness, to a state of universal shivering, as severe as we see in the cold stage of ague. Again, their number, and the periods of their recurrence, are liable to great variety in different cases. Examples are not wanting where the rigors have assumed a very marked periodicity, with considerable remission of the other symptoms during the intervals—a state of things calculated to lead an unwary practitioner into the belief that the patient was labouring under some form of intermittent fever. It is rare to find the fits of shivering attack a patient more than once in the twenty-four hours, and the seizure may occur at any moment; thus it not uncommonly comes on during sleep, whereupon the woman immediately awakes. The recurrence of the rigor within twenty-four hours is a circumstance which, in itself, almost unequivocally points out the existence of phlebitis, as such is never known to happen in ephemeral or milk fever. Some patients acquire an instinctive horror of the rigors, and view their returns with a feeling of vague apprehension and dread. We have seen many fatal cases of metro-phlebitis, in which there had been but a single rigor throughout the whole course of the disease, and occasionally this was a very slight one. As the result of our past experience, we think there is hardly any single symptom which should be regarded with more suspicion and alarm in a puerperal patient, than a rigor, when it cannot be distinctly traced to milk fever or weed. We have sometimes observed a slight degree of rigor to follow, and apparently to have been induced by the act of evacuating the bowels, particularly if diarrhœa were present.

"2. A short time before the accession of a fit of shivering, the *pulse* usually falls considerably in frequency, so that if reckoned by the physician at this time, he might be incautiously led to give an opinion which the occurrence of the next half hour, perhaps, would induce him to retract. In the reaction following the rigor, the pulse invariably becomes much accelerated, but generally subsides again, in the course of a few hours, to its former standard, whatever that may have been. Its average frequency between the rigors varied from 100 to 120 or 130; in a few instances, it was so low as 90 or 84, and this, we think, is to be regarded as a very favourable prognostic. In cases where the pulse was rapid, we have generally found that it had a sharp, vibrating feel under the finger, though not conveying the idea of strength or fullness, but partaking rather of the hemorrhagic character. It might well be denominated an 'irritable pulse.' Generally the first symptom of improvement in the state of the pulse was its losing this sharpness, and becoming soft and yielding to the touch; indeed, until it had assumed

this, its healthy character, there was seldom any real amendment, even though a diminution in its frequency might have taken place.

"3. *Diarrhœa* and a tumid state of the abdomen, from flatulent distension, were very constant, but not invariable attendants upon the second stage of puerperal phlebitis in the examples that have fallen under our observation. Even in those instances where *diarrhœa* was absent, there was a degree of irritability of the bowels which required much care and circumspection to be exercised in regulating the diet and medicines. On account of this symptom the mercurial treatment could seldom get a fair trial, even though every precaution was used to guard against its running off by the bowels. The evacuations chiefly consisted of a brownish liquid possessing a most intolerably offensive smell. On the first appearance of *diarrhœa*, and frequently before it commenced, the most scrupulous attention was paid to the patient's food and drinks, as well as to the medicines. The remedy on which most reliance was placed for controlling the *diarrhœa*, was opium in some form, the ordinary astringents having been found wholly ineffectual in most cases. Acetate of lead, in solution, with acetate of ammonia, sometimes had the desired effect of moderating the purging, when other astringents had failed. As a last resource, the abdomen has been blistered, and very often with satisfactory results.

"4. The *tongue* very commonly presents some unhealthy appearance, but this will, of course, much depend upon the state of the stomach and bowels. Generally it is covered with a thick, whitish coating, and when amendment begins to take place, it cleans from the tip and edges. So far as our experience goes, the most unfavourable condition of the tongue is that of dryness, with its middle of a brown colour. We lately saw a case of well marked puerperal phlebitis, in which the tongue remained clean and moist until a very few days before dissolution, when, for the first time, it presented a slight brown streak down the centre, which was less moist than the adjoining parts; this gradually increased till the whole upper surface of the organ assumed a mahogany colour. This patient, all through her illness, was quite free from gastro-enteric derangement of every kind, except some little irritability of stomach.

"5. *Vomiting* is a symptom we have, comparatively speaking, rarely seen in pure uterine phlebitis, and never almost to any great extent. We feel disposed to consider it as more indicative of peritonitis than of phlebitis. When it does come on, it is usually towards the close, and is associated with other gastro-enteric symptoms.

"6. Throughout the second stage, the *skin* is generally bedewed with moisture, and when the complaint is drawing near to a fatal termination, profuse sweating, particularly during sleep, is a constant attendant. A miliary rash on the neck and chest very often accompanies this symptom."

"The secondary affections of metro-phlebitis are numerous. Those which we have seen comprise the following, viz., arthritis; abscesses in the muscular and cellular tissues, and in the parotid gland; pleuritis; inflammation of the eye; ulceration of the intestines; eruptions of large, purulent bullæ, or miliary vesicles, on the skin; inflammation of the lungs, &c. As to the period at which these make their appearance, there seems to be great latitude—a few days being sufficient for their production in some instances, whilst in others they will not occur at all, even though the patient may linger on for several days or a fortnight."

Our authors do not recollect having ever seen an example of uterine phlebitis coming on in the second week after delivery, where the patient had passed through the first seven days without any unfavourable symptom.

The treatment recommended during the first stage of the disease is the antiphlogistic—general and local bleeding, the warm bath, and the administration of mercury so as to affect the system. It was a trite observation in the Dublin Hospital that if once decided pytalism could be induced, recovery might almost be deemed certain. In the second stage, when the more characteristic features of the disease have become developed, the treatment

is almost wholly empirical, or directed with a view to relieve urgent symptoms. Mercury in this stage is rarely admissible.

"The leading indications to be fulfilled are: 1st, to relieve or mitigate any urgent symptoms, such as diarrhœa, sleeplessness, vomiting, &c.; 2d, to support the strength by diet, as mild and unstimulating as possible; and, lastly, to enjoin the strictest rest of mind and body—to confine the patient to the horizontal position in bed—to prevent every source of excitement, moral or physical—and, in short, to adopt, with unremitting vigilance, every means calculated to tranquilize the system, and to abate or ward off inflammatory action. For checking the diarrhœa and procuring rest, opium is the sheet-anchor; from amongst its many preparations we can seldom fail of finding some one to answer the circumstances of each particular case. Where great hurry of the circulation existed, we have seen marked benefit from the administration of digitalis or prussic acid, given in divided doses, and combined or not with a small opiate, according to the state of the bowels. So far as our experience enables us to judge, we should say that stimulants will very rarely be found beneficial in the treatment of uterine phlebitis; they have always seemed to aggravate the existing symptoms, and to increase the febrile disposition, which should be especially avoided. In one case of marked uterine phlebitis, where the prominent symptoms were rigors and colliquative sweats, we gave trial to the use of nitro-muriatic acid, but without any apparent success."

We have endeavoured to lay before our readers a tolerably full account of the views of our authors in relation to uterine phlebitis; in doing this, we have been led into quotations which may appear to some of unreasonable length, but the fearful character of this form of puerperal disease—the unsettled state of medical opinion in relation to its causes and treatment—and the very valuable information comprised in the clinical observations of Drs. McClintock and Hardy, must be our apology if we have transcended the usual privilege of reviewers. It is probable that it is through our digest and quotations alone that these observations will reach a large proportion of our readers. We may remark that, in all the more important particulars, the observations of our authors coincide with our own. We have not, it is true, seen the very decided good effects result from direct depletion, which they ascribe to it in the first stage of the disease; copious bleeding appeared to us to be more decidedly beneficial in the more frequent form of puerperal fever dependent upon peritoneal inflammation; or in which, as correctly remarked by our authors, inflammation, commencing in the uterus, spreads from thence, with more or less rapidity, over a greater or less extent of the serous membrane of the abdomen.

Some interesting observations are contained in the present section, in reference to the pathology and treatment of phlegmasia dolens. Although fully satisfied of the general correctness of the doctrine which ascribes this disease to phlebitis, yet the authors would not go so far as to say that every case was caused solely by venous inflammation. In regard to treatment, they advise that the patient be strictly confined to bed, and kept in the horizontal position. In the acute stage, a diet of the simplest and most unstimulating kind. The affected limb to be fomented frequently with soothing applications, and leeches over the seat of greatest tenderness; after the leeches fall off, to be followed by a soft, light poultice. The external use of mercury they have found generally beneficial, when carried so far as to gently affect the system, and produce slight ptialism. Next to mercury, in the list of remedies, they place James' powder, and diuretics, the former being given alone or combined with blue pill or Dover's powder, according to circumstances. After the gums have been touched, diuretics are to be exhibited, unless diarrhœa be present, in which case astringents must be employed, particularly opium; after the very acute symptoms are subdued,

blisters will be found of much benefit. So soon as all febrile and inflammatory symptoms are removed, a more generous regimen, and a less depressing line of treatment, may be gradually and cautiously commenced with. To remove the swelling and stiffness of the limb, our authors recommend gentle frictions with any discutient liniment, and subsequently bandaging with a flannel roller, from the toes to the top of the thigh. As the patient exhibits symptoms of amendment, some gentle tonic, as the infusion of gentian, may be prescribed, the value of which would appear to be generally augmented by the addition of a diuretic; subsequently, the quinine has been found to act most efficaciously in restoring the appetite and tone of the system. "The swelling, in this stage, has generally all the characters of œdema, and when the limb is indented with the finger, the impression will be retained for some time; whereas, in the early stage of the disease, the integument is tense and elastic, and does not usually pit on pressure."

From what our authors have seen of *puerperal mania*, they would for practical purposes arrange the different cases of it into three classes.

The first including all those cases where there is a highly excited state of the circulation and system at large, but without any evidence of cerebral inflammation. The skin will be hot and dry; the pulse rapid, sometimes extremely so, and the patient disposed to be noisy and talkative. In this form of the disease, according to Drs. M'C. & H., tartar emetic in divided doses is superior in efficacy to any other remedy with which they are acquainted. In this, as in other forms of *puerperal mania*, the liver and alimentary canal are generally in a deranged condition. Where constipation was present, blue pill or calomel was administered and followed by a purgative draught. A narcotic was occasionally given at bed-time, provided that no indications of cerebral congestion or inflammation were present. The extract of conium, or hyosciamus, was usually preferred, but if this did not procure sleep, the solution of acetate of morphia, or the black drop, was given.

In the second class are arranged those cases where the mania is attended with inflammation of the brain or its membranes, which serious complication will of course demand the energetic employment of all the established means for the treatment of phrenitis. This is a comparatively rare form of the disease.

The third class of cases are those in which the impairment of reason occurs as a solitary symptom, unaccompanied by any marked bodily derangement. The pulse is little above the natural standard, the skin is cool, and there is no headache or flushing of the face. The character of the insanity does not seem to be subject to any fixed law, but more commonly the patient is gloomy and taciturn, and rarely excited or violent. The plan or treatment that was adopted in these cases chiefly consisted in correcting the state of the bowels when they were disordered, and administering anodynes at night. Preference was usually given to the extract of hyosciamus with camphor; the solution of the acetate of morphia, or the black drop being substituted where there was much vigilance.

"There is," our authors remark, "a fact of much practical interest connected with our present subject, which we may here allude to, namely, that abdominal inflammation sometimes alternates with the alienation of reason, and this at a period after delivery when the patient is usually considered free from the liability to such attacks. A remarkable instance of this was related to us by Dr. Johnson. A patient some days after delivery became maniacal, and in this state continued for a week, when she regained the possession of her intellect, but to this immediately succeeded violent peritonitis, which carried her off. A nearly similar occurrence took place in another instance, whose history we have given at length.

In Case XXVI. of the present chapter, it may be observed that, after the patient was attacked with mania, the symptoms of uterine inflammation almost entirely disappeared, but upon the return to consciousness they again became apparent. We lately saw a fatal case of puerperal mania, of the low, melancholic form, with rapid pulse, in which, on examination after death, there was found most extensive peritonitis, with copious lymphic exudation, although during life she had not exhibited a single symptom to lead to a suspicion of the existence of abdominal inflammation.

"Nearly all the cases of puerperal mania that we have ever seen, occurred within the first week or ten days after parturition."

The ensuing section of Dr. McC. and H.'s work is devoted to observations on several points connected with the management of tedious and difficult labours. These are particularly interesting, as comprising the results of an experience which in its extent is seldom attained by the most extensive practitioners of midwifery during a protracted professional career.

In all cases of tedious labour that have come under the observation of the authors where the *first stage* was unusually prolonged, the cause almost invariably has been a rigid unyielding condition of the os uteri. These cases occurred exclusively among primiparous females, and more commonly among those in whom the membranes had ruptured at an early period of the labour. In the Dublin Hospital the treatment of cases attended with a rigid and undilatable state of the os uteri consists chiefly in the use of tartarized antimony, venesection, and the warm bath, the bowels being first well freed. The remarks of the authors upon the cases and circumstances in which the lancet should be preferred, are particularly excellent; they are too long, however, to quote.

Tartar emetic was given in almost every case where the first stage of labour was protracted beyond a reasonable time. We are advised against its use, however, until we are satisfied of the existence of true labour pains. In doubtful cases, where the pains appear of a mixed or irregular character, bleeding has been the practice most commonly adopted in the hospital, inasmuch as it is calculated to prove beneficial whether they be true or spurious.

The warm bath is never resorted to except in cases of obstinate rigidity, which had proved rebellious to every other treatment; hence the number of instances in which it has been necessary to employ the bath is extremely limited—being for the three years to which our authors' observations especially refer, about one out of every thousand labours. From the result of some of the cases which fell under their notice, the impression was made on their minds, though, perhaps, without sufficient reason, that it exerted an injurious effect upon the fœtus.

In their review of the remedies employed for delay in the second stage of labour, they first speak of ergot of rye. This article is pretty extensively used in the hospital in cases of arrest, and in the treatment of hemorrhage after the separation of the placenta. The cases of tedious labour in which it is almost exclusively employed, are, 1st, where the delay occurred in the second stage solely from inert uterine action. It is only when impelled by unavoidable necessity, that the ergot is ever given in any other cases. "For, independent of considerations towards the mother's safety, experience has amply proved that the child will undoubtedly perish unless delivery be accomplished within a limited time after having exhibited the ergot, and therefore it is an important desideratum that the use of the forceps be feasible before resorting to the administration of this remedy."

2d. The *second class* of cases in which the ergot was employed, "were

those in which the fœtal head, without any discoverable pelvic deformity to account for it, became arrested in the brim of the pelvis, and remained in this position until bad symptoms began to develop themselves.

"Under these circumstances, if the fœtal heart were at all audible, the ergot of rye was administered, in the hope that it might bring the head within the reach of the forceps. It may be inferred, from what has preceded, that the ergot was very reluctantly given in these cases, and that it was the accession of bad symptoms only which prompted its employment. Examples of this class were extremely unfrequent, and almost invariably occurred amongst primiparæ."

"The *third* class of cases where the ergot has been had recourse to, includes those instances in which unfavourable symptoms, calling for delivery, manifested themselves whilst the fœtal heart was still audible, but where the use of the forceps or vectis was inadmissible. It is not to be supposed from this, however, that these were cases of obvious pelvic deformity, or impaction of the head, properly so called; if such had existed, it is needless to say this line of practice would not have been pursued. The use of the forceps or vectis was prohibited from the insufficiency of space, and from the state of the soft parts being such as to render their employment hazardous in the extreme, and calculated to expose the patient to the imminent risk, if not positive certainty, of frightful laceration or sloughing of the vagina, and this, too, with a very remote chance of rescuing the infant. From the known influence of ergot upon the child, if delivery be delayed beyond a certain time, it was never given in any of these cases until it became obvious that the preservation of the mother's life preëmptorily called for assistance."

The employment of ergot in the second class of cases, strikes us as unnecessary, if not of doubtful propriety. The third class of cases in which the remedy is stated to be employed in the Dublin Hospital, we either do not clearly understand, from the description given above, or we should certainly apprehend positive injury from the administration in them of ergot. The attempt to force onward the fœtal head by stimulating the uterus to increased action, when there is not sufficient space for the application of the forceps, we should very much fear would eventuate in a rupture of the uterus.

The authors' remarks on the choice and employment of instruments will not be particularly satisfactory to the American practitioner. The time for employing both the vectis and forceps, and the manner of introducing them as laid down by our authors, are in strict accordance with the directions of Denman. As the use of the long forceps is entirely excluded in the wards of the Dublin Hospital, it is evident that in cases in which instrumental interference is indispensable, some time is necessarily lost, and consequently the chance of saving the life of the child considerably diminished. The frequency with which the perforator and crotchet are resorted to, will surprise the obstetricians of this country. We cannot say that the reasons adduced by the authors in favour of resorting to embryulia rather than the forceps, are entirely conclusive. Their remarks on the employment of auscultation to determine the condition of the fœtus, are deserving of attention.

The total number of tedious and difficult labours included in our authors' report, amounts to 259,—of which 173 were delivered without any instrumental assistance. In 52 instances, delivery was effected by the perforator and crotchet, in 18 by the forceps, and in 16 by the vectis or lever. In 88 cases, the principal delay was in the first stage; in 119, in the second stage; and in 52 cases, both stages were protracted. *Twenty-two* women died out of the 259, and *nineteen* out of these fatal cases were primiparous women. Of the children we find that 154 were boys, of whom 83 were born alive, and 105 were girls, of whom 56 were born alive.

Of the 173 delivered without instrumental assistance, 30 got ergot to

overcome inertia in the second stage of labour, and only 10 out of the 30 children were born alive.

"This furnishes strong proof, were any such required, of the deleterious influence of ergot upon the fœtus, as in nearly every one of the above instances, there was unequivocal evidence of the child's vitality when the ergot was given, and in the great majority of them delivery took place within two or three hours after the administration of the medicine."

In the instrumental cases, 34 in number, 17 of the children were born dead.

Detailed histories are given of the more important of the cases of tedious and difficult labours, and a general table is appended showing the age of each patient, the presentation, duration of labour, whether it was first, second, or third pregnancy, &c., sex of child, whether born alive or dead, stage in which delay occurred, mode of delivery, and result to mother.

The third section comprises observations on preternatural labours. The directions for the management of breech and footling cases are judicious, but present nothing with which the American obstetrician is not perfectly familiar.

The authors remark, that of all the breech and footling cases which have come under their observation, in about one-third, they should think, the child entered the pelvis with its face looking towards the abdomen of the mother; yet in no instance was it delivered face to pubis, and in very few was it requisite to give even the slightest assistance to nature in making the turn, whereby the back of the infant is brought round to correspond with the forepart of the pelvis.

The total number of the preternatural presentations included in the report before us, amount to 227; of which 101 were breech cases, exclusive of those (39 in number) which occurred amongst the twin cases. Of the 101 children who presented with the breech, 37 were dead born, 21 of which were putrid: 24 were premature, of which 18 were still-born, 13 being in a putrid condition: of the *six* born alive, *one* was at the sixth month; *three* at the seventh, and *two* at the eighth; *two* were boys, and *four* girls. *Nine* of the premature still-born children were males; and 23 of the entire number of the still-born. Of the 101 breech cases, 58 were males and 43 females. *Three* of the mothers died.

The section concludes with a brief statement of such of the cases of preternatural labour as seem worthy of notice, and a general table, as in the cases included in the preceding section.

Some interesting remarks are made by our authors on the subject of turning in shoulder and arm presentations.

In arm cases they state that they have found great benefit from the use of tartar emetic, from its relaxing effects upon the os uteri, as also in those cases where it was an object to moderate or subdue uterine action, preparatory to introducing the hand for the purpose of turning. They give it in one-sixth, or one-fourth of a grain doses, repeated at intervals, varying in length, according to the urgency of the case, or until it produced the desired effect, or brought on full vomiting.

"Indeed," they remark, "it is a very usual practice, in all cases of arm presentation, to exhibit small doses of tartar emetic solution before the os uteri is fully dilated, with a view to prevent the accession of strong uterine action, and to favour the relaxation of the soft parts. This plan is also followed in cases where the presenting part is not clearly ascertained; the antimonial solution being given in small quantities, until the os be fully dilated, or the membranes ruptured, after which its further administration is regulated by circumstances."

In turning, the authors advise the bringing down of one leg only, taking hold of either knee or foot, whichever should happen to be the most convenient and accessible. They point out in a very striking manner the advantages which recommend this mode of turning, and have led to its adoption in the Dublin Hospital as the usual practice.

The fourth section embraces observations in reference to complex labours. A very full examination is entered into as to the proper treatment of placenta prævia. After pointing out the extreme difficulty of diagnosis between those cases in which the hemorrhage results from the implantation or encroachment of the placenta upon the os uteri, and accidental hemorrhage from other causes, in the commencement of an attack, when the os uteri is high up and undilated, and no pains are present, the authors remark—

“In all cases of accidental hemorrhage and partial presentation of the placenta, where the membranes could be felt at the os uteri, the established practice (in the Dublin Hospital) was to rupture them, either with the fingers or a blunt stilette, should the discharge of blood be immoderate, or prove uncontrollable by the ordinary means. If this did not induce an amount of uterine contraction sufficient to repress the hemorrhage, other means of a similar tendency were resorted to, such as friction over the uterus, stimulating enemata, or, if the state of the parts would admit, the ergot of rye, unless much exhaustion or depression of the vital energies was present. Such a condition of the patient always renders the use of ergot extremely hazardous, as the effect of this medicine upon the system is itself depressing. It very rarely happens, however, that rupturing the membranes is not an effectual means for suppressing the hemorrhage in cases such as have been just described; and there can be no question but that it is a much safer proceeding than introducing the hand and turning. If the pains come on, we may rest assured that the effusion of blood will be restrained; and if the uterus be not excited to action, and if the hemorrhage continue, that no great difficulty can be experienced in the operation of version. But we must again repeat, that a case in which the ulterior measure of turning will be called for, is extremely rare. Our personal observations lead us to this conclusion, which is further corroborated by the more extensive experience of Dr. Johnson. Where the patient is much reduced before the operation of puncturing the membranes, it is most desirable that labour should not set in for some hours, provided, of course, that the great object of our interference, the arrest of the hemorrhage, shall not have been achieved; as the respite will allow time for the strength to be recruited before any further demand is made upon her enfeebled bodily powers. Under circumstances of this kind, where the hemorrhage has been controlled by letting off the liquor amnii, but the patient is miserably weak, it becomes a question worthy of serious consideration whether a full opiate may not prove beneficial, by deferring the accession of labour pains to a more favourable time. We have seen it administered with this intention, and have had reason to be much gratified at the result.”

Placenta prævia occurred, on an average, only once in 1500 cases, according to the combined statistics of Drs. Joseph Clarke and Collins, and of our authors; and if we exclude the instances of partial presentation of the placenta, which did not require turning, its frequency will appear still lower. Our authors have not observed that any constant or uniform proportion existed between the quantities of the hemorrhage and the extent to which the placenta has covered the os uteri. They have seen as profuse and alarming losses of blood where there was only an edge presenting as in any other cases.

Delivery by turning the child they would almost restrict to cases where there is a complete, or nearly complete implantation of the placenta over the mouth of the uterus, or where the hemorrhage is not arrested by the rupturing of the membranes.

Previously to the os uteri being sufficiently dilated to render the passage of the hand practicable, reliance is placed for the arrest of the discharge on the use of the tampon, together with the strict observance of all the general rules applicable to every case of uterine hemorrhage. The tampon was only resorted to in the hospital in cases where the entire mouth of the uterus was covered by the placenta, and whilst it was in a state to obstruct the entrance of the hand. Confining the tampon to such cases very much lessens the liability to internal hemorrhage—such, at least, is the experience of our authors. It is well, however, they remark, always to bear in mind the possibility of this serious occurrence, and to keep a close watch over the patient as long as the tampon remains in the vagina.

To the plan recently proposed by Drs. Simpson and Radford, of extracting the placenta before the child, in cases of placenta prævia, Dr. Johnson, it is stated, entertains very strong objections, not only because it necessarily destroys the child, but also from a conviction of its inapplicability to cases of rigid os uteri, which is the chief or almost only obstacle to the performance of version in these cases.

Our authors doubt, and with propriety, we think, the correctness of Dr. Simpson's doctrine, that the hemorrhage in cases of placenta prævia issues principally or entirely from the vascular openings on the exposed placental surface; they cannot persuade themselves that the great amount of the blood discharged does not proceed from the uterine vascular orifices.

Some interesting remarks follow on the circumstances under which the exhibition of opium may be expected to prove beneficial in this as well as in the accidental species of flooding.

The authors lay down, with great precision and judgment, the rules for the prevention of hemorrhage immediately after delivery. They arrange these under three heads; viz., first, such as are calculated to secure a tranquil state of the circulation at the time of delivery; secondly, judicious management of the second stage of labour; and, lastly, under certain conditions, the use of ergot of rye; we can spare room only to notice the authors' remarks on the latter.

In the hospital such decidedly favourable results have been experienced from the administration of ergot as a preventive of *post-partum* hemorrhage, that they have no hesitation in pronouncing the practice to be both safe and efficient.

"It may be given at one or other of three periods: namely, when the head of the child is on the perinæum, and about to be expelled; or immediately after the head has cleared the os externum, and before the shoulders have passed; or, thirdly, as soon as the insertion of the cord into the placenta can be felt. By giving ergot before the child has been expelled, some time may be gained, but should the placenta be morbidly adhering to the uterus, the difficulty of introducing the hand for its removal will be greatly increased. By adopting the third plan, this source of apprehension is avoided. To this method it may be objected that much time will, perhaps, elapse, and a considerable quantity of blood be lost, before the ergot is administered; nevertheless, the possibility of the placenta being morbidly adherent, should be ever present in the mind of the practitioner, and deter him from resorting to a measure which may so greatly augment the danger of the complication. Dr. Johnson, who introduced the practice, generally gives the ergot according to the mode last recommended. In certain instances, however, where from previous losses it was a matter of the utmost importance to prevent any further hemorrhage after delivery, we have not scrupled to administer it in the second way spoken of above, and hitherto without any unpleasant effect."

The author's directions for the management of hemorrhage occurring between the birth of the child and the expulsion of the placenta, are excel-

lent, but present nothing with which the American obstetrician is not familiar. The directions laid down by them for the arrest of hemorrhage occurring subsequent to the expulsion of the placenta, are equally judicious. Were we not fearful of extending this review to too great an extent, we should be tempted to present an extract or two from this portion of the work.

Under the head of Retention of the Placenta, after laying down the general rule that the introduction of the hand for the removal of the after-birth is never to be performed, unless from a well-grounded conviction of its imperative necessity, our authors remark, that out of all the cases, amounting, probably, to upwards of two hundred, in which they have seen ergot of rye given before the birth of the child, there was only one instance in which the after-birth was not expelled by the natural efforts, aided occasionally by external pressure on the uterus, and in this solitary case it was retained from inertia: Had there been, however, they remark, a morbid adhesion of the placenta in any of these cases, it is more than probable that the difficulty of detaching and bringing it away, would have been increased by the previous exhibition of the ergot.

In the cases included in the report before us, there occurs only one instance in which hour glass contraction of the uterus was the cause of the retention of the placenta. Dr. Johnson adopts the opinion of Dr. Douglass, that hour glass contraction should only be considered as a secondary cause of detained placenta, its formation being merely the result of the undecided manner in which the practitioner introduces or attempts to introduce his hand, with the intent to extract a placenta retained by inertia or morbid adhesion. The experience of our authors is in confirmation of this opinion. They think it very likely that the scrupulous attention paid in the hospital to the application of the binder, and also the practice of keeping a steady pressure on the uterus whilst the child is being expelled, and afterwards, must tend materially to lessen the frequency of retained placenta, by preventing irregular contraction, or inertia of the organ.

It was the invariable practice in the hospital, only deviated from in certain cases of abortion, never to exhibit the ergot to any patient in the third stage of labour, until the placenta had come away, or was completely detached, and lying in the os uteri or the vagina. The reason for this is the impossibility of diagnosing in each instance the precise cause of retention; for, although they do not deny that where the placenta is retained from inaction of the uterus, the ergot might be advantageous, yet where the retention is owing to an abnormal adherence, it would only aggravate the difficulties of the case.

Whatever may be the precise cause of the morbid union between the maternal surface of the placenta and the uterus, our authors believe there can be little doubt but that an inflammatory process very frequently attends its formation, and, in all probability, conduces to increase the evil. Hence, they insist, when ever a pregnant woman presents herself with localized pain or tenderness of the uterus, the first inquiry is to ascertain with the stethoscope, whether the painful part be over the attachment of the placenta, as in that case the prognosis should be more grave, and the curative measures more prompt and active.

This section, the same as the preceding ones, presents a detail of numerous individual cases, and general statistical tables.

The next section is devoted to observations on *puerperal convulsions*. In regard to the premonitory symptoms of the attack, our authors remark—

"In a disease so justly dreaded, and so full of danger as puerperal convulsions, it is satisfactory to know that there very generally exist some precursory symptoms of a sufficiently obvious character, to lead one to anticipate its attack, and by the timely use of proper measures, to prevent it altogether, or materially lessen its violence. Amongst the cases of convulsions that have fallen under our observation, warnings of this kind were, upon close inquiry, very seldom found to have been absent, although they were not always equally striking or manifest. The most constant of these premonitory symptoms are headache, varying in kind and degree, but generally of a dull, obtuse, or tensive character, and liable to be increased upon exertion, particularly upon stooping; an œdematous condition of the face and upper extremities, most visible in the morning, soon after rising; a furred tongue and sluggish state of the bowels. Edema of the lower limbs has been considered by Dr. Hamilton and others, as a very certain precursor of eclampsia, but our experience is at variance with this, and we would, with Dr. Johnson, be disposed to regard œdema, *confined to the face and hands*, as more decidedly premonitory of convulsions. In some cases, the above symptoms were more prominently marked than in others, or were accompanied by one or more of the following: viz., vertigo, tinnitus aurium: flashes of light before the eyes, or *muscæ volitantes*; temporary loss of vision, or of consciousness; flushed face; pain at the epigastrium; and an albuminous state of the urine. Dr. Lever was, we believe, the first to draw attention to the state of the urine in this class of patients, and to show that in them it very constantly presents albuminous characters. Not only has he found this condition of the secretion in women actually labouring under an attack of the disease, but what more concerns our present purpose, his investigations have led him to think that it frequently exists for some time previous to the convulsive seizure, so that it may be included in the category of premonitory symptoms." "We have examined the urine in some cases where convulsions were present, and in several others where they were threatened, and the general tenor of the results coincided with those of Dr. Lever. His conclusions receive additional confirmation from the researches of MM. Devilliers and Regnault.—(*Revue Méd.*, Mars 1847.)"

The prophylactic treatment recommended by our authors, consists in blood-letting, followed, if necessary, by leeches to the temples; a mercurial purgative, the regular action of the bowels being subsequently kept up by appropriate laxatives; exposure to the open air, daily exercise, and an unstimulating diet.

"In cases where the predisposition is strong and difficult to eradicate, besides using these remedies, Dr. Johnson is in the habit of giving James' powder, after the following manner: He begins with a small dose at bed-time, and continues increasing it every night by one grain, until it produces some sensible effect, or until the dose amounts to ten or twelve grains, when it is omitted. Should there be any vascular excitement, or should the kidneys not be acting properly, digitalis, with dried soda, may be given in divided doses."

Of the truth and importance of the remarks made by Denman and confirmed by Dr. Collins and other observers, that there exists a strong tendency to peritoneal inflammation in cases of puerperal convulsions, our authors are fully assured. So remarkably strong and difficult to eradicate is this predisposition, they remark, that in several instances they have seen metritis manifest itself in patients who had been only *threatened* with convulsions, the fits having been warded off by an appropriate treatment.

One of the well-established facts connected with puerperal convulsions, is that the vast majority of instances occur among women pregnant of their first children. Ten of the thirteen cases recorded by our authors were primiparæ.

"It rarely happens," they remark, "that a woman is attacked with convulsions in her second labour who has not had them in her first; but when such does take

place, we believe it may be often accounted for in this way, that either preventive treatment had been adopted in the first pregnancy, and not in the second, or else that the second labour was more tedious and prolonged than the first, for delay in the labour unquestionably tends to favour the development of the disease. In the thirteen cases related in this report, as well as in all others that have come under our observation, the head was the presenting part, which agrees with the experience of Dr. Joseph Clarke, Labatt, Collins, and Johnson. Each of the two latter physicians, however, saw one convulsive case, in which the head was not the presenting part.

"It does not appear that females who are subject to epileptic fits are more liable on that account to attacks of puerperal convulsions. On the contrary, it would seem that they enjoy an exemption, and that even the epileptic attacks occur with less frequency, and with mitigated severity, during pregnancy. This certainly was the case in three or four instances of pregnant epileptic females who came under our notice."

The means upon which chief reliance was placed, in the Dublin Hospital, for the treatment of puerperal convulsions, were copious blood-letting, free evacuation of the bowels, cold affusion of the head and face, and the administration of tartar emetic as first recommended by Dr. Collins. The latter is commenced with so soon as the bowels have been well emptied; two grains of the salt are dissolved in four ounces of distilled water, with the addition of one scruple of tinct. opii, and a tablespoonful of the mixture is given every hour, or half hour, according to the urgency of the symptoms.

"From the known liability to uterine or abdominal inflammation after an attack of puerperal convulsions, it was customary in the hospital to direct occasional small frictions with the mercurial ointment, and also to give some blue pill at intervals, during the first few days after delivery. The object of this was to prepare the system, so that in the event of inflammatory action supervening, mercurialization might be produced with as little delay as possible."

Detailed histories are presented of all the cases of puerperal convulsions which occurred in the Dublin Hospital during the period embraced in the report before us. Of these, *ten* were first pregnancies, and *three* were second pregnancies; *two* of these latter had had convulsions in their first labour, and in the third case, an interval of ten years had taken place since the birth of the first child. In *ten* cases, the convulsions came on *before* delivery, and in *two* of these, they continued *after* delivery; in *three* instances, the attack did not begin until after delivery. *Six* of the children were males, and *seven* females; of those born alive, *three* were boys, and *four* girls. *Six* of the women were delivered naturally; *four* by the crotchet, *two* by the forceps, and *one* by the vectis. *Three* cases terminated fatally.

Rupture of the uterus is the subject next treated of. The observations presented by our authors on this serious accident are particularly interesting. The circumstances they have been taught to regard as the harbingers of a rupture of the uterus are—

"1. Where, from the history of the woman's previous confinement, we are led to suspect the existence of deficiency of space in the hard passages. Thus, if there had been considerable difficulty in each of her former labours, and that the children were dead born, or only the females born alive, these circumstances would afford tolerably certain evidence of the capacity of the pelvis being defective; and we believe it to be incontestable that this constitutes one of the most frequent predisposing causes of rupture of the uterus."

"2. A fixed local pain existing in the uterus for any length of time, during pregnancy and up to the time of labour, should be viewed with apprehension, as it

may have been caused by some disorganizing process in the uterine substance, which will dispose it to give way under the expulsive efforts of parturition.

"3. During labour, the symptoms that might justly lead one to fear the occurrence of this accident, are, constant and violent uterine action after the rupture of the membranes and discharge of the liquor amnii, without any corresponding impression being made on the fetal head."

"4. The occurrence of a crampy pain in some part of the lower belly."

"5. Cramps in the legs very generally accompany the violent uterine action before spoken of, and, along with other symptoms, are to be esteemed premonitory of the accident in question."

In the cases of threatened rupture of the uterus, that have come under the notice of our authors in the hospital, the object diligently aimed at was to moderate the inordinate violence of the uterine contractions, or to arrest them altogether, in the hope that they would return with less violence and more regularly. With this intention, a full bleeding was taken from the arm,—unless something was present to contraindicate it,—whilst the patient was in the erect position, and afterwards a tolerably large opiate was administered by the mouth, or, if this failed, an opiate enema or suppository was given.

"Before resorting to the employment of these remedies, tartar emetic solution was sometimes exhibited, as it very generally has the effect of diminishing the severity of the pains. By these means any degree of spasm will be removed, and the uterus may be brought to act in a more regular and normal manner; this will afford nature the fairest opportunity for surmounting the obstacle. and, at all events, will defer the period for resorting to instrumental delivery. Both experience and analogy lead us to believe that some of the muscular bands of which the uterus is composed, may be effected with severe spasmodic contraction, sufficient even to occasion laceration. Hence, the removal of such a condition is an object of no small importance."

The remarks of the authors on the treatment of cases in which a rupture of the uterus has taken place, are judicious, but present nothing peculiar or particularly interesting. The delivery of the child and secundines as speedily and gently as possible, is the first great object to be accomplished; this may be effected, in many cases, by the introduction of the hand and turning: delivery by the forceps can, our authors conceive, be very rarely eligible in cases of ruptured uterus, if it be true, as they remark, that the child dies very soon after the accident, and that the pelvis is generally under-sized in these cases. The Cæsarian operation they consider so very rarely necessary, as not to require that it should be particularly noticed. In the immense majority of cases, therefore, where the head does not recede after the rupture has taken place, delivery is to be effected by the perforator and crotchet.

Nine cases of laceration of the uterus occurred in the hospital during the period embraced in our authors' report, all of which terminated fatally. *Two* of the patients were delivered by the natural efforts; *one* by the forceps; *two* by the perforator and crotchet; and *four* by turning. In two of the cases where version had been performed, it was also necessary to perforate the head before it could be brought through the pelvis. In *one* instance the head presented; in *two* the face was towards the pelvis; and in all the others the vertex was the presenting part. *Eight* of the children were boys, all born dead, and one of them putrid; *one* child, a girl, was born alive. In *four* cases the accident occurred before the patients were brought to the hospital. *One* of the patients died in nine hours after the accident; *one* in fifteen, and *one* in sixteen hours;—*two* died on the

second day; *two* on the third day; *one* on the fourth day; and *one* on the fifth day.

A detail is given of each of the nine cases.

The observations on plural births follow in order. From these we extract the following remarks, in reference to the management of twin cases; we believe the practice pointed out to be a judicious one.

"The rules of practice that have been followed in the management of twin cases, we shall now briefly detail. After the birth and separation of the first child, the binder is applied with a moderate degree of tightness. A vaginal examination is then made, and if the second fœtus be found presenting favourably—that is, with the head or lower extremities—its membranes are forthwith ruptured. This is a slight deviation from the practice usually laid down by authors; but Dr. Johnson is of opinion that it is better to let off the liquor amnii at once than to wait any time before doing so; and we certainly think that this measure tends to produce a firmer and more permanent contraction of the uterus subsequently. Great faintness or exhaustion of the patient might render some delay advisable; but such a condition has very rarely occurred at this period. Should any part of the upper extremity of the second child present, the operation of turning ought to be undertaken immediately, before the pains have time to be renewed, or to have acquired much strength. If good uterine action did not come on within forty minutes or an hour after the rupture of the membranes, a stimulating injection was thrown up the rectum, and this, with a little friction over the uterus, seldom failed to increase the energy of the pains."

The authors state it as their conviction that, by steadily following these rules, the operation of turning, when the vertex of the second child presents, will very rarely be necessary, unless on account of some untoward complication.

The next subject to which the observations of our authors refer, is that of Funis presentations. The directions for their management are marked with good sense; we cannot spare room for any account of the plan proposed by the authors for the reposition of the prolapsed funis.

The two remaining sections treat, the one of ophthalmia neonatorum, and the other of the proper management of still-born children. The observations contained in both are excellent and of a strictly practical character; but the length to which we have already extended this review precludes our noticing them more fully.

In concluding, it is scarcely necessary to say that our estimate of the work of Drs. McClintock and Hardy is a very favourable one. Upon all the leading subjects connected with the practice of obstetrics, it presents a series of observations particularly interesting, because derived from direct clinical sources, sufficiently extensive and favourable for arriving at correct conclusions. We return our thanks to the authors for having thus presented to us the results of the practice of the Dublin Lying-in Hospital. Had they woven these into a formal systematic treatise on midwifery, they might perhaps have gained for themselves more *éclat*, but we doubt very much whether they would have conferred as much benefit upon the profession: we would sincerely desire that the medical inmates of all our public institutions could be induced to present the results of the observations there collected, and the practice there pursued, in the same unpretending form as that adopted in the work before us.

D. F. C.

BIBLIOGRAPHICAL NOTICES.

ART. XII.—*Principles of Medicine: comprising General Pathology and Therapeutics, and a brief general view of Etiology, Nosology, Semiology, Diagnosis, Prognosis, and Hygienics.* By CHARLES J. B. WILLIAMS, M. D., F. R. S., Professor of the Principles and Practice of Medicine, and of Clinical Medicine, and First Physician to the Hospital, University College, London, &c. &c. Second Edition, considerably enlarged. London, 1848: 8vo. pp. 533.

DR. WILLIAMS tells us in his preface that "more than a year has elapsed since the first edition of this work was out of print." The same we believe to be true of the two editions through which the work has already passed in this country. The present edition contains very extensive additions, "comprising the enunciation and application of most of the facts and established deductions made available to the science and art of medicine during the last few years. These additions pervade almost every portion of the work; but they preponderate in the following subjects:—

"In Etiology, *mechanical, chemical, and dietetic causes of disease, defective cleanliness, ventilation, and drainage.* In Pathology, the tabular views of the elements of disease; *reflex action and sympathy; elementary changes in the blood; congestion; determination of blood; inflammation, in its nature, manifold results and modes of treatment; degeneration of textures; cacoplastic and aplastic deposits, and their treatment, with a notice of the action of the cod liver oil; and the whole chapter on Hygienics, comprising food, clothing, air, temperature, exercise, mental occupation, sleep, and excretion.*"—p. vii.

In endeavouring to adapt the work to the rapid improvements in medical science, in very few instances has the author found it necessary to retract or supersede the inferences and views set forth in the first edition. On many subjects they have been confirmed and extended by recent researches to a degree which has not less surprised than convinced him of their truth. When these views were opposed to those generally held, Dr. Williams was led to test them more severely by all the experiments which physiology, clinical observation, and pathological research could supply. The result has been a firmer and clearer conviction of their substantial truth. The reason given by Dr. Williams in his preface to the first edition of his work, for its publication, still obtains, namely—"that there is no work [in the English language] which fully treats of the subject of General Pathology, and its application to practical medicine. * * * * With many excellent and elaborate treatises on the details of medicine, we have scarcely any that treat of those general principles in the nature and treatment of diseases, which are really fundamental in the practice of medicine." There is much truth in the following observations of the author:—

"It seems quite extraordinary that, notwithstanding the recent rapid improvements and comparative perfections of the contributory sciences, practical medicine should still halt in the domain of empiricism. A chief reason for the anomaly seems to be, that science and practice have been rarely pursued by the same parties. Scientific men are not and cannot be practical, because they have had no experience: and practitioners know little of science, and therefore derive little good from it. Instead of working together, these parties are at issue with each other. But it is high time to put an end to this feud. Philosophers must descend from their transcendental positions, to consider details of practice and purposes of utility. Those who would be practitioners must gain from science that knowledge and that method which render experience instructive and useful."

—p. x.

The proper foundation of medical studies, the only basis of practical medicine,

is *general pathology*; and Dr. Williams thinks, and justly so in our opinion, "that a chief reason why the practice of medicine has been commonly so distasteful, and so difficult in its study, and so unsatisfactory when tested at the bed side, is, because its foundation, *general pathology*, has not been efficiently taught." It is the connecting link between practical medicine and anatomy and physiology. Sound principles of medicine are the "embodiment of the results of experience in disease, with a knowledge of structure and function in health.

"The great proof of the practical utility of general pathology is, the aid which it gives in the study of clinical medicine, and the light which clinical medicine continually throws on it. The states which the practitioner has to treat are often too indefinite or too mixed to correspond with any of the definitions of special disease. They frequently consist of functional disorder, varying with time and circumstance, or changing its place, so as to present no fixed characters. But, compared by the pathologist with the standard of health, and analyzed from their complexity, their nature becomes intelligible, and their proper treatment obvious, so far as means are possessed to counteract or control that which is wrong."—p. 524.

Practitioners act more on general ideas of disease than on their knowledge of particular diseases.

"They feel the pulse and the skin, to guide them in the use of blood-letting, whether they have found out the special disease or not. They examine the tongue, and inquire as to the state of the evacuations, to guide them in the use of purgatives, under whatever complaint the patient labours. They consider the complexion and bodily strength in connection with dietetic measures; and the chief treatment of convalescence depends on rules suggested by general pathological knowledge."—p. 525.

"Throughout our examination of the details of disease, we shall find the principles of general pathology continually exemplified; and through these principles the mind can master the details to an extent wholly unattainable by those who pursue them as unconnected matters of fact. Those who begin the study of practical medicine by attempting to learn the details of diseases, are like those who would endeavour to master all the facts of chemistry without any knowledge of the general facts or laws of chemical action, affinity, and definite proportions: yet even in practical chemistry, or chemistry applied to the arts and manufactures, the most extensive and important services have been obtained from these very principles, applied to the details."—p. 529.

Participating fully in these views, we shall now enter into a somewhat detailed examination of Dr. Williams' "*Principles*," and permit our readers to judge of the manner in which he has acquitted himself of his important and, as we think, difficult task.

Chapter first treats of etiology, or the causes of disease. Dr. Williams discards the term *proximate* cause—used by Cullen, after Gaubius—as representing properly the pathological condition, and being rather a part of the disease than a cause; and he divides the *remote* into *predisponent* and *exciting* causes. He includes under the first head, the following:—1, debilitating influences; 2, excitement; 3, previous disease; 4, present disease; 5, hereditary constitution; 6, Temperament; 7, age; 8, sex; 9, occupation. The different subjects are cleverly, though succinctly, handled. The *exciting causes* are subdivided into *cognizable* and *non-cognizable*. The first comprise mechanical and chemical causes; ingesta; violent exertion; mental emotion; excessive evacuation; retention, suppression, and diminution of evacuations; defective cleanliness, ventilation, and drainage; temperature, and changes: the second, the endemic, epidemic, and infectious causes of disease, whose existence can only be inferred, and not proved. Our authors' views on these vexed questions are moderate, and will commend themselves to the reader.

Chapter second is devoted to *pathogeny* or *pathology proper*. As this subject occupies the greater part of the work, and possesses some claims to originality, it will be the chief object of our analysis. The aim and purpose of this portion of the book are thus explained:—

"Disease is a change from the natural condition of the function or structure of the body; but the change is generally more or less compound, involving several elementary functions or structures; and it is obvious that we cannot obtain an

accurate knowledge of the nature of disease until we have ascertained that of its component parts. As the anatomist and the physiologist examine structures and functions by separating or analyzing them into their constituent parts, before he contemplates them in combination, so should the pathologist study these constituent parts, or elements, in *disease*, before he can understand their combinations.*

"The chemist, in the examination of his subjects, finds that there are some principles or elements that cannot be analyzed or divided further; these he calls ultimate or primary elements: others, again, are simple compounds, which may be analyzed: but they occur so constantly, and act so singly in compounding and giving properties to complex matter, that they are called proximate principles or secondary elements. A parallel case might be shown of physical science.

"So it should be with physiology and pathology. There are the healthy and diseased *primary* or *ultimate elements* of *structure*—muscular fibre, nervous matter, vascular fibre, and the elementary tissues of membranes, glands, skin, and other parts; and there are *primary elements*, healthy and diseased, of *function* of these same structures—irritability, tonicity, nervous properties, to which may be added, because at present we cannot analyze it, the power of secretion and nutrition; and lastly, the constituents of the blood. And there are the *secondary* or *proximate elements* of disease, composed of the preceding primary elements, but still simple in comparison with the complex conditions of disease which they combine to produce.

"The varieties of disease affecting these several elements may be comprehended under the heads of *degree* and *kind*; degree, including *excess* and *defect*, or alterations of *plus* and *minus*: and kind, relating to changes not comprised under these heads, but otherwise expressed by the term *perversion*. By applying these heads to the elements of structure and function, we obtain a simple and comprehensive classification, which embraces all the important topics of general pathology."—pp. 67-8.

"These primary and secondary elements of disease are the especial subjects of general pathology. By the study of them we become acquainted with the materials of disease, and their relations to each other; we learn how special diseases arise, and of what they consist: how they produce their phenomena and effects, how they are to be known, distinguished, and classified. Out of such a knowledge, where it is correct, sufficient, and combined with an ample acquaintance with the properties of remedial agents, arises the rational method of relieving, curing, and preventing disease, the great ends of the art of medicine.

"I readily admit that our knowledge of these elements or principles in pathology, is as yet too limited to be entitled to rank as a complete science; but I think that the attempt to describe and illustrate them will be useful, not only by making available all that is known on the subject, but also by showing what is not known, and needs investigation: thus suggesting fit subjects for further research."—pp. 69-70.

Under the head of functional or dynamic diseases, the first of the primary elements noticed is muscular irritability. This may be *excessive*, constituting spasm or convulsion; or it may be *defective*.

Section second treats of tonicity. Our author defines this property of all muscular structures, and of some which are hardly accounted muscular, as "a tendency to slow, moderate contraction, not essentially terminating in relaxation;" and keeping "the parts in which it resides in a certain degree of tension."

"This tone keeps muscles and limbs in their places when at rest, and out of their places when dislocated: if one set of muscles is paralyzed, the tone of their antagonists draws the parts in an opposite direction, as we see in paralysis of the portio dura on one side of the face. A similar property is possessed by the intes-

* "A neglect of this precept has greatly retarded the advancement—nay, even the formation—of pathological science. Men have begun with the very complex problems of *inflammation* and *fever*, before they have made themselves acquainted with the elementary properties of textures, or even of vessels. The result has been, that the most profound reasoning and ingenious speculations have been wasted on nonentities, such as spasm of the extreme vessels, increased action of the capillaries, &c.: and even observation has been confused by the complexity of the subjects brought under it."

tinal tube, the urinary bladder, the air tubes, and the middle coat of the arteries, and gives them a constant tendency to contract on their contents. In these, but particularly in the arteries, it performs an important part, both in health and in disease. By this the arteries contract, when they cease to receive blood from the heart, and thus are found empty after death. It adapts them to different degrees of fulness, yet maintains in their walls a certain tension favourable to equality in the motion of the blood."—p. 74.

The distinct property of tonicity and irritability has been asserted, and it is said that though irritable fibres possess tone, tonic textures are not irritable.

"This," says Dr. Williams, "is not true with regard to the arteries; for I have many times distinctly seen them slowly contract, and remain contracted, at a point to which an irritant, mechanical, chemical, or electric, has been applied. The late discovery, by Henle, of a structure distinctly muscular in arteries, confirms this observation. I have proved, in like manner, the irritability of the air tubes, which move more rapidly under a stimulus than the arteries; whilst that of the intestines is still higher in degree, but still inferior to that of the œsophagus and voluntary muscles, the contractions of which, on the application of a stimulus, are abrupt, and immediately followed by relaxation. So far, then, it appears, that tonicity is influenced by the same agents which excite irritability; but another agent, temperature, seems to affect them differently. Cold increases tonicity and impairs irritability. Under the influence of cold, vessels generally, but especially arteries, shrink in size very remarkably; and the muscles and other textures present a firmness and contraction which impede the quickness of motion characterizing the highest degrees of irritability. Under the influence of heat, on the other hand, although muscles are relaxed, they are more irritable, and the pulsations of the heart are more frequent.

"Cold and heat, therefore, become the best tests for tonicity; and by their means we find this property to be possessed by textures which are not distinctly muscular; I mean, the veins and the cutis, which in a remarkable degree contract with cold, and become relaxed with heat."—pp. 75-76.

Tonicity is an important property in the animal economy, the preservation of health often depending on its integrity, its modifications being peculiarly felt in the vascular system.

"Practical men have long admitted the existence of something of this kind, without defining or localizing it; and the terms tone and atony, bracing and relaxation, tonic and relaxing remedies, become quite appropriate in connection with this property."—p. 76.

Excessive tonicity is caused by an over-nourishing and stimulating regimen, with insufficient exercise; a dry bracing air; tonic medicines; the excitement of fever, &c. In inflammatory fever, excessive tone of the vascular system is a chief constituent. The remedial measures are those which relax the tonic fibre, and increase the secretions, as warm bathing, exercise, sudorifics, aperients, diuretics, and moderate diet, with probably antimony.

In *defective* tonicity, the muscles are flabby, and incapable of continued exertion, though sometimes irritable, with the tremulousness of debility. The heart is irritable, and easily excited to palpitation; the pulse soft and yielding; "it may be full when slow, and sharp when frequent; but it is without firmness or endurance and is easily accelerated. Another distinctive character is its retardation, increasing the interval between the heart's beat and distant pulses; so that the radial pulse is often felt after the second sound of the heart is heard; the tubes being less tense, the pulse-wave is slower than usual. Sometimes the absence of that tightening of the walls of the arteries by which the tonic fibres control their movements, permits their mechanical elasticity to come into play, and this reacting after each stroke of the heart gives that peculiar reduplication or rebounding of the pulse, which has long been described under the term *dichrotous* pulse. This is often observed in convalescence from fevers and other diseases after the subsidence of vascular excitement. A loose relaxed state of the vessels renders the circulation in distant parts weak, so that the extremities are cold, whilst the head and internal organs may be congested. Sudden exertion or change of posture may disturb the circulation and cause faintness or giddiness. Want of tone also in the stomach and intestines causes indigestion and costiveness, and permits them to become

distended with wind and accumulating feces. The secreting organs, irregularly supplied with blood, are also liable to disorder, being either scanty, depraved, or profuse and watery."—pp. 77-78.

In individuals with the system in such a state of atony, there is decided proclivity to certain diseases. There is no power to resist depressing agents, as malaria, infection, &c. On exposure to cold, the blood is quickly driven from the surface to the internal organs, causing congestion and inflammation.

"The proper remedies for defective tonicities are tonics, which are agents that tend to increase the tone of the whole system, particularly of its muscular and vascular parts. We have already stated that cold has this effect in a marked degree, and in truth, cold, properly applied, is one of the best tonics which we possess. For this purpose its application should be sudden and too brief to cause depression or any of its morbid effects. The shower-bath and plunge-bath are the most effectual forms; and free sponging, with cold salt water, is applicable even to weak subjects. A pure bracing air and much exposure to it, with moderate exercise, have also useful tonic effects. There are many medicinal tonics, the most effectual of which are bark and its preparations, medicines containing iron, and the mineral acids. Generous living may be considered a part of a tonic plan, in so far as it tends to enrich the blood, which sustains tonicity as well as all other vital properties."—pp. 78-79.

In the third section, on diseased sensibility, Dr. Williams holds this language:

"An anodyne influence more powerful in degree, than that induced by any other agent, although transient in duration, is that resulting from the inhalation of the vapour of sulphuric ether, which has during the last year been extensively used, first in America, and subsequently in this country. The operation of this agent, and of nitrous oxide gas (which has a similar effect), is on the sensorium, rather than merely on the sensitive nerves. In most instances, if continued for a sufficient time, it induces complete insensibility, so that the subject may undergo the most severe surgical operation, and a female may go through the process of parturition, without suffering any pain. In many cases, however, especially where the inhalation has been less prolonged, or less impregnated with ether, sensibility is blunted, but not destroyed, and the patient makes movements and may utter expressions indicative of slight pain, yet has no recollection of it when restored to consciousness. The memory seems to be more affected than the perceptive function. The power of voluntary motion is suspended in about the same ratio as sensibility; but the reflex motions of the eyelids, breathing, &c., are lowered but not abolished, unless the inhalation be continued so long as to induce complete asphyxia.

"The operation of ether vapour is obviously narcotic, like that of opium and alcohol; and is more speedy and transient, because it passes freely and directly through the lungs into the arterial blood and affects the brain, and is as promptly dispersed by its diffusion throughout the body. It has been maintained by many, that it operates by its interference with the respiration, inducing a degree of asphyxia; but so far is this from being the case, that its best effects are produced when the respiration is steadily maintained; and it has always appeared to me that the end to be aimed at in the administration of ether-vapour, is to narcotize, as far as possible, without too much embarrassing the breathing. This is difficult to accomplish without a freer supply of oxygen than atmospheric air contains; and I should expect safer and more satisfactory results from the inhalation of a mixture of ether-vapour with oxygen gas, which might be continued with safety for a much longer period than with the vapour and air only.

"Although the chief influence of etherization is transient, yet by saving the nervous system from the shock of intense temporary pain during an operation or paroxysm of suffering, it often prevents that consequent nervous irritation and exhaustion which is as injurious to the vital powers, and which favours the return of the painful attack. Thus in neuralgic and painful spasmodic affections, the removal of one or more paroxysms by etherization may break the habit of diseased action, and effect a permanent cure."—pp. 81-82.

Sections fourth and fifth are on diseased voluntary action, and the diseases of reflex and sympathetic nervous influence. Though short they are highly instruct-

ive, and exhibit the thorough and correct knowledge of the author of the physiology of the nervous system.

In the sixth section on secretion, Dr. Williams says:

"I have for the last twenty years* advocated the opinion recently advanced by Dumas and Liebig, that the formation of the principles of the chief secretions takes place through chemical affinities, especially those of the absorbed oxygen and the constituents of the blood, controlled by vital agencies; but this view leaves still as a vital property the power which the liver has to separate bile; the kidneys, urine; mucous membranes, mucus, &c.

"We are thus led to consider secretion as a peculiar property of the secernent structures, just as irritability is of muscular fibre; and as such its disorder constitutes a primary element of disease. In doing this we avoid the hypothesis of some physiologists, who ascribe secretion to nervous influence, a notion by no means accordant with numerous facts."—pp. 100-1.

The influence of the blood—the material from which the secreted matter is supplied—on the quantity and quality of the product, as well as that of the nervous system, are mentioned as important elements in derangement of the process. The effects of *excessive* secretion are both *forwards* and *backwards*.

"The *forward* effects of an excessive secretion of bile depend on its stimulating properties. It irritates the intestinal tube, causing a bilious diarrhœa or cholera. The symptoms of this consist in an exaggeration of those properties of the alimentary canal which have already been described as elements of disease. Thus the bile irritating causes increased irritability, and more rapid motion of the matter through the tube: pain from exalted sensibility; vomiting, straining, and cramps, from exalted excitomotory function; profuse mucous secretion from excited secernent function."

"But excessive secretion may also have effects *backwards*, on the *organs*, and on the *blood* from which it proceeds. Excessive secretion often weakens the vital properties of the *organ*, so that, in its proper function, it subsequently becomes torpid. Thus after diarrhœa the bowels often become torpid from defective secretion. So, too, in cases where an excessive secretion continues for a long time, it generally is impaired in its quality from a similar cause.

"Excessive secretions, if abounding in animal matter, may not only reduce the mass of the blood, but also affect its composition. Thus bile and urine, which differ much in composition from the blood, if separated in unusual proportions, must leave the blood modified. Urine contains a great preponderance of azote; and its excessive formation from the principles of the blood would leave a predominance of hydrogen and carbon in this fluid. The bile, again, abounds in hydrocarbon, the copious removal of which would leave a superfluity of azote. It may be objected to this statement, that according to the opinion of some chemists, the urine and the bile are not formed from the constant elements of the blood, but from materials derived from the food, and from the decay or transformation of the tissues. To this it may be replied, that this opinion is at present no more than hypothetical; and should it prove to be true, it would not affect the undoubted fact, that the secretions of the liver and of the kidneys are intended to balance one another, and the removal of carbon from the lungs; and that whether the materials from which these eliminating processes are supplied be the principles of the blood itself, or the decayed constituents of tissues, or matters derived from the food, the co-operation of all these processes will be generally required to maintain a uniformity in the composition of the circulating fluid; so, too, if one of these processes is more active than the others, the blood must suffer by the excess of those matters which the less active processes allow to accumulate in it. A clinical illustration of this position may be found in cases of bilious diarrhœa or cholera. This flux of bile is either accompanied by a highly loaded state of the urine, or by fever; in the latter case, the fever does not subside until the urine becomes very copious, or deposits an abundant sediment. The most probable interpretation of this fact is, that the excessive secretion of bile disorders the composition of the blood; so long as the kidneys rectify this disorder by separating, in greater abund-

* In a thesis, *De sanguine ejusque mutationibus*, Edin. 1824. See also Med. Gaz., September and October, 1835.

ance, the solid contents of the urine, no fever results; but if the kidneys fail in this task, fever ensues, and continues until they accomplish it; then a free secretion, and copious deposit is symptomatic of the decline of the fever."—pp. 102-3.

The morbid effects of *defective* secretion may be, also, both *forwards*, on the parts for which the secretion is intended, and *backwards*, on the organ and on the blood from which it should be eliminated.

"The most remarkable of the *backward* effects of defective secretion are instanced in case of the excretions. The distinctive materials of the secretions of urine and bile appear to be positively noxious, and poison the system if not separated from the blood. Thus the sudden suppression of urine or bile causes typhoid symptoms, extreme depression, and coma, which speedily end in death; and, in such cases, urea, or the colouring matter of the bile, has been found in various organs. Where the suppression is incomplete, the poisoning process is more tardy; various functional and visceral derangements are produced, such as delirium or lethargy, dyspnoea, palpitation, vomiting, diarrhoea, dropsical effusions, structural degenerations, &c., which always cause injurious effects, if the defective excretion be not restored. But the amount of these effects will depend on the extent, and especially on the suddenness of the diminution of the excretion; and it is very remarkable when it is very gradual how little disturbance it may for some time induce. In these gradual cases, still more remarkably than in those of more sudden suppression, some of the excrementitious matters may be detected in the blood and in other fluids and solids of the body. Thus in some structural diseases of the liver, the colour of the bile becomes manifest, first in a yellow, and by accumulating, in a deep greenish colour in all the textures, constituting the yellow and the black jaundice. In granular degeneration of the kidneys, in which scarcely any urea is excreted by these glands, this principle is found in the blood and various fluids of the body. In the case of a patient of mine affected with ascites from disease of the heart, liver, and kidneys, Mr. Garrod obtained nearly four grains of nitrate of the urea from an ounce of the peritoneal fluid, and a considerable quantity of bright yellow solid matter, probably bilious. In other cases I have known the fluid of ascites and anasarca from diseased kidneys emit a decidedly urinous smell, and exhibit on analysis easily appreciable quantities of urea. One of my pupils, Mr. Palmer, detected urea in the serum contained in the ventricles of the brain, in a case of fatal apoplexy from granular kidneys and diseased heart."—pp. 106-7.

In idiopathic fevers, the excretions are frequently defective, and many of the constitutional symptoms in this class of diseases are no doubt due to this cause. During the Edinburgh epidemic of 1843, crystals of the nitrate of urea were obtained from the serum of the brain, and from the blood, in several cases, by Dr. Henderson and Mr. M. W. Taylor.

"There can be little doubt that a morbid element, which in its extremes acts so injuriously as to cause serious disorder, and even speedy death, must in slighter degrees be an important cause and constituent of disease; and I believe that gout, rheumatism, and many cachectic states leading to diseases of nutrition, degenerations, dropsies, &c., are essentially connected with defective excretion."—p. 107.

In speaking of the special stimulants of the secreting organs, it is properly observed, that, "if used in excess, or too long, may not only cause general weakness, but also exhaust the vital properties which they excite; and the result may be a diminution either of the secreted fluid, or of its most characteristic constituents. Hence the long or excessive use of mercury causes torpidity of the liver; that of purgatives, imperfect action of the bowels; that of diuretics, scanty urine, or albuminous or watery urine, defective in urea. These facts point out the expediency of intermitting the use of these agents, and of alternating or conjoining them with others calculated to improve the vital properties of the textures generally, which may often be effected by the medicines called tonic, and by regimenal means which improve and equalize the state of the circulation, and preserve the digestive and assimilative functions in the best order. In illustration of this position, I may refer to the acknowledged advantage of giving bitters with or after mercurial courses; chalybeates with or after saline aperients and diuretics, when these are long used; and these additions, which alone, or used at first, would check the secretion to be increased, now sustain it and render it permanent. Some

medicines which are inferior in efficacy to those already named, are yet, in some instances, more eligible for chronic cases of defective secretion: because they are less exhausting, and combine some measure of tonic influence with that of increasing the secretions. As examples of this kind may be named taraxacum, preparations of iodine, sarsaparilla, nitric and nitro-muriatic acids. Courses of these medicines are sometimes of great efficacy in keeping free the secretions after they have been restored by more powerful means; and they likewise often improve the functions of digestion and nutrition."—pp. 108-9.

The diseases of the constituents of the blood is begun in the seventh section, and continued through the eight remaining ones of the chapter. These sections are amongst the most important and valuable in the work, and we especially recommend them to the reader. They are admirably executed. The subject is fully through concisely treated.

Treating of the morbid changes of the blood, Dr. W. observes:

"These, like those of the solids, may be often traced to individual elements, of which the blood is composed, the changes of which must be viewed as ultimate elements of disease, and are therefore properly included in the present division. But as the blood also operates as a whole, compound indeed in itself, but simple in its influence on vital functions and structures, it forms a proper connecting link between *ultimate* and *proximate* elements of disease. So, also, inasmuch as it is, in some respects, an organized compound, the materials of which are changed, together with its functions, and contributes to the production of change of structure in the solids of the body, the consideration of its changes will be a proper introduction to that of alterations in the circulation, which induce changes of structure, and thus lead to structural diseases themselves."—p. 111.

The properties of the circulating fluid are first examined with reference to those which are most elementary, or to its respective constituents. "We have, then, to consider—

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| <ol style="list-style-type: none"> 1. The red particles, 2. Fibrin and colourless globules, 3. Albumen and other dissolved animal matters, 4. Oil, 5. Salts, 6. Water, | } | in excess, defect, and alteration." |
|--|---|-------------------------------------|

In speaking of the alterations in the colour, shape and size of the red corpuscles in connection with the medium, Dr. W. says:

"It is highly probable that similar changes may take place in the living body, from circumstances which greatly alter the proportion of saline matter and water in the blood. May such change contribute to produce the serious symptoms, and even sudden death, which have ensued on drinking a large quantity of water after great exertion? Has it aught to do with the reaction and irregular excitement sometimes occurring after excessive losses of blood? Or with the symptoms of suffering which animals manifest at the instant of injecting water into their veins? Dr. Owen Rees has suggested that the remarkable diminution of the blood discs in cases of albuminuria may be due to their destruction in consequence of the draining away of albumen from the blood, and thus reducing it to a very watery state; and the same circumstance may prevent their development from the chyle and lymph, both in these cases, and in chlorosis. In several cases of Bright's disease of the kidney I have observed the blood discs jagged or crenate at their margins, and otherwise imperfect; and the same remark has been made by Simon of Berlin and others, and by Andral in a case of chlorosis. In one fearfully rapid example of albuminuria, which proved fatal in six days, with effusion of pus in the joints the day before death, I found the colouring matter dissolved in the blood-liquor after death, and scarcely any red discs remaining. There were numerous pus globules in the blood. A similar total destruction of the blood discs was observed in University College Hospital in the blood of a person who died of malignant scarlet fever with purpura. I have met with similar proofs of breaking up of the red particles, but to a much smaller extent, in acute purpura connected with jaundice, and in cases of disturbed function of the liver without jaundice; is this

due to the remarkable solvent power exercised by small proportions of bile on the red particles, noticed by Simon and others?"—pp. 114–15.

The same broken condition of the red corpuscles was noticed by M. Renzi, of Naples, in an epidemic typhus which prevailed in certain districts of Italy, in 1841, as well as in the Edinburgh epidemic fever before alluded to.

The section on the changes of the blood from the transformation of chyle and of the textures, including the processes of nutrition and reparation, is particularly valuable from its suggestive character, and from the intrinsic importance of the subject. Most pathologists now regard gout to depend on the accumulation in the system of an excess of lithic acid. This view, inferential previously, has recently been demonstrated to be correct, in the case of a patient of the author in whose blood lithic acid was detected. There was total absence of lithic acid in the urine, until during the exhibition of colchicum, when its characteristic crystals appeared under the microscope. The pathology of both gout and saccharine diabetes is admirably given, and we regret that we cannot transfer it to our pages. The treatment indicated is sound and discriminating. We have room only for the concluding paragraphs.

"In the effect which each exerts on the economy, there is a great difference between the morbid matter of gout and that of diabetes. The sugar in the latter has no tendency to accumulate in the system and produce local effects; but, acting as a powerful diuretic, it passes rapidly away, carrying with it a great quantity of water and of the other constituents of ordinary urine; and the thirst, dry skin, and emaciation of diabetes, seem to be chiefly due to this mode of operation. The common complication of diabetes with pulmonary consumption shows also, however, that the plastic process is degraded.

"The lithic acid of gout and gravel, on the other hand, has a tendency to accumulate in the body, and to cause the local and general irritations which have been already mentioned. Hence it becomes a chief indication to counteract its irritating properties, and to promote its elimination from the system. The medicines which are most efficacious in doing this are alkalies, or their carbonates, or their vegetable salts, with colchicum, or iodide of potassium, saline mineral waters, and alterative aperients. These all increase the action of the kidneys and intestinal canal, and drain off the offending matter from the system; but the operation of colchicum is far more certain than that of the others; and its permanent efficacy depends on its continued action on the kidneys in particular."—pp. 156–57.

Chapter third is occupied with the consideration of the secondary or proximate elements of disease, consisting of two or more primary elements. "They comprise, at least, three of the *primary* elements which have been considered—the blood and its constituents, the irritability and the tonicity of the organs concerned in its distribution."

Anæmia is the first of these conditions treated of. The most common causes of general anæmia Dr. Williams considers to be irregularity of the menstrual function.

"It might seem difficult to understand," he observes. "how the last operates; but that in many cases it is a cause and not an effect of anæmia, is plain from the well-known fact that no signs of anæmia have occurred until cold, over-exertion, or mental excitement, or some circumstance, has suddenly checked the flow of the catamenia; it has not returned; and then the patient begins to lose colour, and gradually to exhibit the anæmic state. In many cases I have known this occur in young females who have previously suffered from acute rheumatism, implicating the heart. It would seem that in these cases some injury is done to the blood particles and to the powers by which they are repaired: this is manifest not only from the pallidity, but from the yellowish and almost greenish hue which the complexion sometimes presents, and which obviously depends on a discoloration of the textures by the altered blood, as in the neighbourhood of a bruised part. The nature of these changes has been already noticed. In some of these cases of chlorosis, the appetite is depraved; there is such a complete dis-relish for animal food and other nourishing articles, and such a craving for sour things, and even for matters destitute of nourishment, as chalk, cinders, &c., that it might be supposed that this perverted appetite is the cause of the anæmia, by deterring the patient from taking that food which is capable of making red blood; and undoubt-

edly such an appetite, when indulged, must contribute to this result; but it is not so constantly present as to be considered the chief cause of the anæmia in the examples under consideration."—p. 163.

Though the general symptoms of anæmia are those of weakness, still it is often accompanied by others of an opposite character, and which lead the inexperienced practitioner into error. Instead of depression there is irritation and exaltation of function, particularly in the nervous system.

"Sensibility is sometimes acute; there is intolerance of light and sound, with flashes in the eyes, noise in the ears, a sense of rushing in the head, and various neuralgic pains. The excitomotory nerves are sometimes excited, and spasms or convulsive affections of different kinds may be present, or the organic functions may be affected, and palpitation, spasmodic asthma, vomiting and such sympathetic irritations, may occur. In a few instances, anæmia has been attended with delirium, or mental excitement bordering on it.

"It thus appears that the functions which frequently are thus excited in the midst of general depression and weakness, are those of the nervous centres; and the generally nervous character of persons in a state of great weakness is connected with the same fact, so that *nervousness* and *weakness* are almost synonymous terms. No explanation of this apparent anomaly has been to my knowledge proposed; but one seems to suggest itself in the peculiar distribution of the circulation through the nervous centres. When the mass of blood is reduced in quantity, the blood-vessels generally contract in proportion, their tonicity adapting them to the amount of their contents. But the vessels within the skull and spinal canal cannot contract with the same facility, for not being exposed to atmospheric pressure, and some of them being fixed in bony canals, they do not shrink as the blood becomes reduced, and therefore they retain more than their proper share of the circulating fluid.* This disproportionate amount of blood in the nervous centres produces different effects, according to the degree in which the heart's propulsive power reaches it. Under the influence of temporary palpitation, fever, or other kind of excitement, the brain and spinal cord, through their uncontracted vessels which are among the nearest to the heart, receive an unusual share of its exalted but partial force; an erethism of some one or more of the functions of these nervous centres is the consequence; and pain, spasm, sensorial excitement, intolerance of light and sound, or sympathetic irritations of some kind or another, occur.† In this condition the head may be hot and throbbing, the face flushed, the eyes suffused, whilst the extremities and the surface generally are comparatively bloodless, and either cold or very speedily becoming so on exposure. Epistaxis sometimes occurs, and although bringing momentary relief, may, if considerable, add to the evil, by increasing the anæmia."—pp. 165, 6, 7.

But the heart may be too enfeebled to propel onward the blood accumulated in the cerebral vessels, particularly the veins. Congestion of this organ is a necessary result; and we accordingly have "headache and giddiness, relieved by the recumbent posture, drowsiness, impaired mental faculties, obscured vision and hearing, partial paralysis, and, in extreme cases, coma or catalepsy."—p. 167.

* This statement is not invalidated by the recent experiments of Dr. G. Burrows, (Med. Gaz., April, 1843.) His experiments and expositions very satisfactorily demonstrate the absurdity of the notions, founded on Dr. Kellie's paper, that the quantity of blood in the head is always the same; but it remains clear that the circulation within the head and spinal canal, especially in man, is affected by losses of blood differently from the circulation in other parts.

† Although the chief effect of excitement of the circulation in anæmia is thus directed to the nervous centres, it is by no means confined to them. Other parts in the immediate vicinity of the heart become the seat of increased arterial pulsation and disturbance. Thus a painful throbbing is often complained of in the throat, chest, and epigastrium even when there is little pulse in distant arteries, and the extremities are cold. To understand these facts, we must bear in mind that when the arteries are full and tense, they oppose their fulness and tension to each contraction of the heart, which resistance reduces the strength of each pulse in the vicinity of the heart, although it continues to propagate it to a distance; but when the arteries are empty and loose, the heart squirts into them the blood in an unresisted jet, the force of which is strong near the heart, but extends not to distant arteries.

"This congestion may be only temporary, and lead to no serious results; but in some cases I believe there occurs an event that has not been noticed by pathologists—namely, a coagulation of the blood in the sinuses, and a consequent permanent obstruction to the passage of the blood through the brain. I have met with several cases more or less corresponding with the following description.

"A young female becomes anæmic, and after exhibiting various symptoms of feeble general circulation, with headache, drowsiness, and impaired sensorial functions, suddenly becomes worse; passes into a state of stupor with dilated pupils, sometimes varied by slight manifestations of delirium, throbbing of the carotids, and partial heat of the head, and dies comatose. On opening the head, a small quantity of serum is found under the arachnoid and in the ventricles, sometimes with a little lymph (in one case there was none). The vascularity of the membranes is remarkable, but the vessels most distended are the veins, and in the larger of these and in the longitudinal sinus, there is a firm coagulum. In parts, especially at the torcular Herophili, this coagulum blocks the whole sinus, and exhibits a separation of fibrin, portions of which are softened down into that opaque purilagenous matter which was long mistaken for pus, but which Mr. Gulliver has shown to be a mere disintegration of the fibrin which mere stagnation in a warm temperature may effect. These have been taken for cases of meningitis. No doubt inflammation may supervene in them occasionally, but in two cases that have fallen under my notice, there was no adhesion of the arachnoid nor deposit upon it, nor any other unequivocal mark of inflammatory action; yet the fibrinous and bloody concretions in the veins and sinuses were most remarkable for their size and firmness."*—p. 167.

We pass to the next division *Hyperæmia* or *Excess of Blood*. Several conditions are included under this head. A view of these important proximate elements of disease is given in the following table.

HYPER- ÆMIA:	{	General=	Plethora	{	with motion increased=	Sthenic	{	RESULTS.		
									— —	diminished=
Excess of blood.	{	Local	{	with motion diminished=	Congestion	{	Hemorrhage.			
								— —	increased=	Determination of blood
								— —	partly increased,	Dropsy, &c.
								partly diminished=		

After treating of Plethora, *sthenic* and *asthenic*, Dr. Williams passes to the consideration of Congestion, or local hyperæmia, with diminished motion. We cannot now discuss the theoretical portion of this section, and though not disposed to give our unqualified assent to all the views of the author on this subject, still we regard them as generally sound.

The symptoms and effects of Congestion are detailed with great clearness and precision, both as regards the local effects, and those on the system at large. As a specimen, we extract the following regarding the pathology of Bright's disease:—

"I have for several years referred albuminous urine to congestion of the kidney; and this view has been lately confirmed by some experiments by Mr. G. Robinson. The following considerations led me to entertain this opinion:—1. The urine often becomes albuminous during great embarrassment of the circulation in cases of organic disease of the heart or lungs, when the kidneys are otherwise healthy. 2. I have in many instances observed temporary albuminuria during the cold stage of ague, and the congestive stage of eruptive fevers. 3. In

* A wax model of the sinuses and membranes in one of these cases is in the museum at the University College. Cruveilhier gives a representation of a similar case, which, without sufficient reason, he considers as one of cerebral phlebitis. Andral mentions a case of cerebral hemorrhage in connection with anæmia, which was probably of the same kind.

granular degeneration of the kidney, the amount of albumen in the urine is augmented by circumstances causing congestion of the kidney, and is reduced by remedies suited to remove this. 4. The most common form of Bright's disease of the kidney in its earliest stage, presents the appearance of a highly congested structure, and is excited by causes calculated to produce congestion, such as frequent irritation of the kidneys by stimulating liquors—congestion from exhausted tone; continued exposure to cold, especially after the kidneys have been thus excited—congestion from intropulsion; scarlatina probably operates as the two last combined. 5. The albumen in the urine abounds most in the congestive (first) stage of Bright's disease—the vessels becoming more or less obstructed in the progress of the disease by a deposit of fibrin with granular cells in the tubules, and in some instances around them, which deposit at the same time perpetuates some degree of congestion, whilst it supersedes the proper secreting structure."—p. 193.

The remedies indicated for the treatment of congestion are judicious.

Section fifth treats of local hyperæmia, with increased motion, or determination of blood. There is nothing here that need detain us, though the section is an admirable one.

The results of hyperæmia, as hemorrhage, flux and dropsy, occupy the succeeding section. It teaches right doctrine, and will be read with advantage. The soundness of the following remarks on the treatment of dropsy depending on visceral disease, cannot be disputed.

"The tendency of dropsy connected with diseased heart, kidneys, or liver, to recur again and again, and become chronic, renders it needful to vary as much as possible the remedies employed, as well as to use means to support the strength. It is an important point in the treatment of such cases not to exhaust the powers of any secreting organ by too long acting on it, and not to expend the efficacy of any one remedy by too long continuing its use. By employing sometimes diuretics, sometimes purgatives, sometimes diaphoretics, and by aiding each of these, by local depletion or derivants, or by stimulants and tonics, according to the temporary prevalence of vascular fulness and excitement, or the converse, much may often be effected to prolong life. It is in the application of these rules to the treatment of prolonged cases, that the skill and resources of the rational practitioner are most tried, and his superiority over the routinist is best proved. It is under these circumstances, too, advantageous to have at command a great variety of medicines, particularly diuretics, and to alternate them or vary them in order to increase or maintain their effect. Those that I have found most effectual are—combinations of mercury, squill, digitalis, and conium (not in acute albuminuria); combinations of decoction of broom, or *pyrola umbellata*, with nitrate and acetate of potass; the juice or extract of taraxacum, with the same salts or bitartrate of potass, or with nitric acid (particularly in hepatic disease); infusion or tincture of digitalis, with iodide of potassium, and bitartrate of potass (in dropsy after scarlatina); the same, together with increasing doses of tincture of cantharides (in asthenic cases of albuminuria, after cupping to the loins and hydragogue purgatives); ammonio-tartrate and ammonio citrate of iron in Seltzer water (in asthenic dropsy); gin in cream of tartar beverage (imperial); compound spirit of juniper, spirit of nitric æther, with various others (in cases of debility). The latter stimulant diuretics have disappointed me more than any of the rest."—pp. 241-242.

The seventh section is the most elaborate in the work, both theoretically and practically; it is an exposition of the important subject of *inflammation*, in all its phases and varieties: a subject which has always attracted the first attention of the pathologist.

The pathological definition given by Dr. Williams to distinguish inflammation from the other varieties of hyperæmia is—"too much blood in a part, with motion (of that blood) *partly increased, partly diminished*."—p. 244.

"But besides this pathological definition, its outward characters may be briefly defined in the four signs which, from the time of Celsus, have been considered distinctive of inflammation, *redness, heat, pain, and swelling*. These signs are sometimes produced by congestion, and by determination of blood; but in a degree less marked, and for a time less continued, than in inflammation; and

although there are cases and forms of inflammation in which it is not possible to detect all these marks, they may still be said to constitute its most general character. In common with other varieties of local hyperæmia, inflammation owes the sign of redness to the excess of blood in the part, but we shall find that this redness is heightened by a peculiar concentration of the particles in the inflamed vessels, which is also the cause of the peculiar results of the process. As in determination of blood, the heat and pain are in part due to the increased motion of the blood; but in inflammation, they are exaggerated by the motion being opposed to obstruction. As with other forms of hyperæmia, the swelling arises partly from the overdistension of the blood-vessels, and partly from effusions from them; but in these effusions, inflammation differs from congestion and simple determination, departing still further than these from the natural quantity and quality of the effused matters."—pp. 244-245.

It has been the custom to refer the first movement of inflammation to the nerves. Dr. Williams adduces the following arguments to show that an impression on the nerves is not essentially a part of the first process of inflammation.

"1. Some of the causes of inflammation (the majority of those inducing internal inflammation) produce on the nerves or nervous system no known primary effect, which resembles that of other causes of inflammation (irritants): thus, inflammations excited by cold are often preceded by no marked nervous disturbance; whereas the strongest impressions of cold on this system are frequently not followed by inflammation. 2. Inflammations often originate in congestions, and in the sudden suppression of hemorrhages and other discharges, without the occurrence of any symptoms referable to the nerves: hence inflammations thus arising may escape detection, and are called *latent*. 3. Persons in whom nervous properties are most developed, are not those most susceptible of inflammation; and all varieties of nervous excitement are sometimes manifest in the highest degree without any inflammation ensuing. Even where pain and other nervous symptoms are excessive, and are the result of mechanical or chemical injuries (such as crushed limbs, extensive burns, &c.), inflammation sometimes does not follow; and this has led surgeons long to distinguish between irritation and inflammation. 4. Inflammation readily occurs in parts, the nerves of which are paralyzed or have been divided."—pp. 249-250.

"So far as it is known, the blood-vessels are the essential seat of the whole process of inflammation; and although some of the exciting causes of inflammation (irritants), act on the nerves as well, yet others operate chiefly and essentially only on the blood-vessels. Hence we find that the causes predisposing to inflammation are circumstances chiefly affecting the vascular system."—p. 250.

Having traced the essential operation of the causes of inflammation to be on the blood vessels and their contents, Dr. Williams next proceeds to the inquiry of "what is the character of their operation on the vessels, and what phenomena it develops."

That the blood vessels are enlarged in inflammation is obvious to the most superficial observer, and has been proved by the experiments of Hunter, Alison, and others; but such is the case, too, in congestion. In what respect then does inflammation differ from congestion, and in which also the vessels are enlarged?

"It differs not only in the accompanying symptoms and in its products, but also in the observed condition of the vessels of the part. Thus besides greater pain and heat in an inflamed part, and earlier and more abundant effusions into or from it, the more florid hue of redness, the strong beating of the arteries leading to the part, and augmented quantity of blood flowing from its veins, clearly indicate that there is increased motion of the blood, instead of diminished motion, as in congestion."—p. 251.

It is certain, from the observations of Lawrence and others, as well as from direct observation with the microscope, that the vessels in the vicinity of the inflamed part are the channels of an increased flow of blood; but if this were all, there would be no distinction between determination of blood and inflammation.

"Microscopic research has established one great point of difference. The observations of Thomson, Hastings, Kaltenbrunner, and Marshall Hall, have long clearly proved that there is more or less *obstruction* to the passage of the blood in

the vessels most inflamed. Thus in the frog's web, when a part inflames from local irritation, the blood is seen to move more slowly in the part most irritated, and gradually accumulating in the vessels, renders them larger, redder, and more tortuous, until the motion ceases altogether in them, whilst neighbouring vessels are still the channel of an increased current. A chief point, then, in which inflammation differs from determination of blood, is in the retarded or arrested flow of blood in some of the vessels. This answers to the definition which we have given of inflammation: *too much blood in a part, with motion (of that blood) partly increased, partly diminished.*"—p. 252.

The cause of this retarded flow of blood through an inflamed part has always been a difficult problem for pathologists to solve. Cullen supposed it to depend on spasm of the extreme vessels. Wilson Philip ascribed it to a weakness of the capillaries, which he believed incapacitated those vessels from transmitting the blood. John Hunter taught that there was something active and vital in the enlargement of inflamed vessels, and he used the term "active dilatation;" and Kaltenbrunner, and other German writers, adopted the same idea, when they spoke of "vital turgescence," "turgor vitalis," "inflammatory erection," and analogous terms. The microscope shows the extreme vessels to be in a state of dilatation, not of spasm, and thus Cullen's hypothesis falls. To Philip's theory, Marshall Hall and others have objected by saying, that the capillaries, by their contraction, do not aid in the circulation of the blood, and that their "debility," therefore, cannot be a sufficient cause for interrupted passage of blood through them. The words of Hunter convey no meaning. The idea of Haller and some of his followers, ascribing the circulation of the blood in part to certain supposed properties of vital attraction and repulsion, by which the blood is drawn into, or repelled from particular parts, independently of all motion of the living solids—has been recently disinterred and advocated by Prof. Alison of Edinburgh. He regards changes in these assumed vital attractions and repulsions to be the chief elements in the process of inflammation. This hypothesis assumes the existence in the fluids and solids of the living body of properties as distinctly vital as that of contractility or sensibility; and, moreover, ascribes to these fluids and solids, powers of attraction and repulsion at *sensible* distances, like the attractions of electricity, magnetism, or gravitation, yet distinct from all these, and sometimes opposed to them. It attributes, in the language of our author, to the living body a new physical power, and almost a discerning intelligence in the exercise of that power. Undoubted facts are necessary before this hypothesis can be received; and Dr. Williams well observes:—

"Now, before the existence of such a power can be admitted, it must be proved that the phenomena of living structures are not and cannot be explained through any known vital or physical agencies. We have already adduced and referred to arguments and observations to show that the *known* physical and vital properties of the living body will account for the chief phenomena of health and disease without assuming the existence of any forces of a mysterious character; and we have now to consider whether the same thing may be done with regard to inflammation. If we succeed in explaining the nature and effects of inflammation by a reference to ascertained properties, it will be needless and unphilosophical to assume the existence of others, which are mysterious and unknown. We do not pretend to propose these explanations as complete or certain, but as the best that we can devise in the present state of science, and the most consistent with well-established facts; and it is very satisfactory to observe that the discoveries in chemical physiology made since the first edition of this work was written, so far from invalidating these views on the nature of inflammation and its results, go far to confirm and extend them."—p. 255.

What, then, is the cause of the stagnation or tardy motion of the blood in the most enlarged capillaries, in the midst of surrounding increased flow, and which is the great characteristic of inflammation? Is it in the vessels, or in the blood, or in both? The latter, our author thinks, we shall find to be the true case.

"In determination of blood, the arteries are enlarged, and so are the capillaries in due proportion; the circulation is therefore equally increased. In congestion,

the capillaries are enlarged, without any increase of the arteries: the motion is therefore impaired; but still, being gentle, it may diffuse itself through the mass, which moves slowly. But if to congested capillaries there be added the increased and abrupt force of the current from enlarged arteries, or if to determination of blood enlarged arteries and atonic congestion of the capillaries be joined, the propulsive power of the current will be impaired. As in the experiment with the intestine, the blood will pulsate or oscillate in the distended vessels rather than pass through them; and the main current will pass through collateral anastomosing channels, which become the seat of simple determination or increased flow. This is just the state of things in the incipient stage of inflammation; and if either the capillaries do not speedily recover their tone, or the arteries do not contract, the blood in parts becomes stagnant, its particles adhere to each other, and to the walls of the vessel, and the obstruction is confirmed. The arterial portions of some of the obstructed capillaries are still open, and exposed to pulsative force from the supplying arteries, which continues to strain their coats, and cause an oscillatory motion of their blood particles, but no passage through them. Such are the phenomena which we see under the microscope."—pp. 256–257.

Hence, then, one cause of the retarded flow of blood in an inflamed part, is a weak, inelastic state of the capillary vessels; such, in fact, as exists in cases of atonic congestion. But it is very certain that the obstruction, as well as other features of inflammation, depend on "changes which take place in the blood within the inflamed vessels." John Hunter was aware of this, for besides describing the coagulation of the blood in the inflamed vessels, he mentions the adhesion of fibrin to their walls. Gendrin and others have noticed the coagulation of the blood in the inflamed vessels; and Dr. Marshall Hall attributed the obstruction of the vessels in inflammation to the adhesion of the blood globules to the walls of the vessels. Dr. Williams thought that microscopical observations should be directed to this point more specially than had hitherto been done; and, accordingly, in 1841, he made many careful examinations of the early stage of inflammation in the frog's web. We cannot afford the space to insert our author's recapitulation of them. They formed the subject of his Gulstonian lectures for 1841, and were published in the *Medical Gazette* of the same year. The result of numerous carefully repeated microscopic investigations was, that the chief cause of obstruction, as to the fluid within the vessels, was due to two circumstances,—the *increased production of the white globules, and their remarkable disposition to adhere to the walls of the vessels and to one another*. These investigations have been since repeated and confirmed by numerous experienced observers.

The sudden and rapid formation of the colourless corpuscles, Dr. Williams thinks may be explained in this way:

"The blood liquid is highly charged with protein, which needs only a further process of oxidation to assume the solid form of the deutoxide: this process is supplied by the free current of arterial blood (determination) which rushes into the obstructed portions, and brings the red particles, the oxygen carriers, in such forcible contact with blood liquor as favours the transfer of oxygen to the protein contained in it. As the protein becomes oxidized, it consolidates in a granular form, and the more readily around the oily molecules always diffused through the blood liquid; and these form the nucleoli visible in the larger granules. But the granules also cohere in clusters, and form the pale corpuscles of various sizes which appear adhering to and creeping along the sides of irritated vessels."—pp. 261–2.

The peculiar disposition of the white corpuscles to adhere to the walls of the vessels may be ascribed to the physical property of adhesiveness, common to soft bodies of glutinous materials. In the beginning of the obstruction of the inflamed vessels, the red corpuscles are little concerned; they show no disposition to adhere or form rouleaux; but in the period of total obstruction these flexible and elastic bodies can no longer pass, but become jammed in such numbers in the interstices of the white corpuscles, that the whole vessel speedily presents an almost homogeneous deep red color, from the great accumulation of red particles.

"It seems, then, to be well established, that an essential part of inflammation is the production of numerous white globules in the inflamed vessels; and that the obstruction of these vessels is mainly due to the adhesive properties of these glob-

ules. The production of these globules must then be considered as a constant fact in the history of inflammation and nutrition."—p. 265.

The further changes effected by inflammation are the modification in the functions of the involved vessels. This is manifested in different ways in different parts of the inflamed site. Where the flow of blood is increased, the functions will be exalted; whilst if it be obstructed, they will be more or less impaired. The effusions from inflamed vessels, although at first the same as from tense congestion and determination, present, as the inflammation advances, appearances not found in the products of mere congestion or determination. Much precise information on the nature of inflammatory effusions has recently been supplied by the microscope.

"In the frog's web, after inflammation has continued some hours, there appear outside of the vessels (especially of those in which the strongest current encounters the most complete obstruction) white globules or corpuscles, with specks in them, exactly like the pale granular globules within the vessels. These are also found in various inflammatory effusions, and are called *exudation corpuscles*, *granule cells*, or *fibrinous globules*."—p. 268.

In addition to these bodies, the fibrin effused by an inflamed membrane also contains a mesh of extremely fine fibres, first noticed by Messrs. Gulliver and Addison, as well as some portions of solid effusion with no distinct structure, and which are either irregularly granular, like coagulated albumen, or completely amorphous and homogeneous; with the usual solids generated by the part, as mucous globules, epithelium scales, epidermis and blood corpuscles.

The results of inflammation are thus given:

"Inflammation is always attended with more or less effusion. Where the inflammation is slight, this effusion may remove it by unloading the engorged blood-vessels; but where the inflammation is more intense, that is, where the obstruction is considerable and the determination of blood strong, the effusion may go on to a great extent without resolving the inflammation. It is then that the more serious effects of inflammation result. The effused matters press on and pervade the adjoining textures, derange their nutrition, and impair their cohesion; and thus takes place the *softening* of textures, which occurs chiefly in those of a complex kind, which retain the effused matter. The continued obstruction in the inflamed part leaves the veins and lymphatics free to absorb, and the high pressure and determination of blood tend rather to promote this process of absorption. Hence, as new matters are effused, the old texture is compressed, disintegrated and absorbed; the finer exudation corpuscles and fibres themselves are removed or altered, and the large pus globules alone remain: this is *suppuration*. Or if the original obstruction of the inflamed vessels be extensive, or have been rendered so by the subsequent effusion, the supply of blood may be so stopped in a part, that it dies, and the dead part may then either be only dissolved and absorbed at its circumference, and separated from the living textures in form of a *slough*; or if more extensive, the dead part may pass into decomposition before it can be separated; thus occur *gangrene* and *phacelus*. If the inflammation be of a lower kind, the obstruction less complete, and the effusion more gradual, the nutrition of the natural texture is only impaired, not arrested, and from the increased deposition of solid matter, *induration* or *consolidation* takes place."—pp. 270-1.

Such is our author's description of the process of inflammation in its intimate nature and phenomena, and we fear that our analysis has conveyed but a feeble idea of the admirable manner in which he has discharged a delicate and difficult task. We pass over the description of the symptoms, both local and general, of inflammation, together with the nature and symptoms of the terminations or results of inflammation, which is simple and highly graphic, recent microscopical and chemical observations being laid under heavy contribution. We would direct particularly the notice of the reader to it; he will obtain much valuable information on these important subjects in a compact and available form.

In the treatment of inflammation and its results, though there is nothing of novelly advanced, the views which should guide us are laid down most judiciously, and with a clearness which makes them comprehensible to the youngest student.

Chapter fourth is on structural diseases or diseases of nutrition. The author's classification of the elements of diseased structure is given in the following table:

DISEASED NUTRITION	{	Increased==hypertrophy. Diminished==atrophy.	{	Induration. Softening. Transformation and degeneration.	{	Euplastic	{	Cicatrices. False membranes. Cirrhosis. Fibro-cartilage. Gray tubercle. Atheroma, &c. Yellow tubercle. Calcareous matter, &c.								
									Perverted . . .	Deposits	{	Cacoplastic	{	Aplastic	{	Cysts. Tumours. Hydatids, &c. Carcinoma. Encephaloma. Melanosis, &c.
ALTERED MECHANISM	{	Contraction Dilatation Obstruction Compression Displacement Rupture, &c.	{	Non-malignant	{	Malignant	{	Cysts. Tumours. Hydatids, &c. Carcinoma. Encephaloma. Melanosis, &c.								

We shall be able only to briefly notice some interesting points. In a note at p. 362, speaking of the typhous-material in the intestinal follicles, bronchial glands, lungs, &c., mentioned by Rokitsky, Vogel, Engel, and other German pathologists, Dr. Williams, says: "Under the microscope, however, this matter exhibits nothing to distinguish it from bad fibrin or cacoplastic lymph; and in accordance with the view in the text, I consider it to be such, and tending to involve in a process of sloughing the excretory follicles of the intestines by which it is attempted to be thrown off, or inducing a deposit in the lung which has various pernicious tendencies."—p. 362.

The recent and extensive researches of Dr. H. Bennett, published in the *Edinburgh Monthly Journal*,* the results of sixty-three post mortem examinations, would seem to be confirmatory of the opinions of the German pathologists. In addition to the organs already named, Dr. Bennett found infiltrated masses of the typhous deposit in the spleen.

Under the head of cacoplastic and aplastic deposits, there is an exceedingly excellent article on the pathology of tubercle. Dr. Williams refers tubercle "to a degraded condition of the nutritive material from which old textures are renewed and new ones formed; and holds that it differs from fibrin or coagulable lymph, not in *kind*, but in *degree*, of vitality and capacity of organization."—p. 386. These views, which our author has held and taught for many years, have within a short period received demonstrative confirmation by the microscopic observations of numerous observers, and amongst others Mr. Gulliver, who detected in tubercle the materials of lymph, but in a degenerated and confused state, the cells being few, irregular, shrivelled, with imperfect nuclei and incapable of further development; no fibres being perceptible, and the main substance being composed of granular or amorphous matter.

"The circumstances which degrade the material of nutrition," observes Dr. Williams, "and lead to the deposition of cacoplastic and aplastic matter, may be either local or general. Of the local causes, congestion and the lowest and more chronic forms of inflammation have been mentioned as capable of determining cacoplastic deposits; but even in these cases it is probable that the general cause also more or less operates—that is, a degraded state of the plasma of the blood. Congestions and chronic inflammations certainly cause cacoplastic effusions; but then, such congestions and chronic inflammations do not easily occur in healthy subjects; and the want of health may imply that the plasma of the blood is bad in addition to the local cause. But practically, it is of great importance to keep

* See American Journal for Jan. 1848, p. 241.

in view the local as well as the general cause, for the former is often more tractable than the other, and it is by guarding against it that slighter degrees of the general cause (diseased plasma) may be prevented from doing mischief. But the general cause, when present in great degree, leads to cacoplastic and aplastic deposits, as modifications of ordinary textural nutrition, independently of inflammation or even congestion. This general cause thus prevailing constitutes the chief element of the scrofulous diathesis or tuberculous cachexia, and we have before mentioned that a defect of the red particles and an excess of fibrin in the blood constitute its most remarkable feature. In this condition of the blood there is an increased disposition to deposit, and often an abundance of the fibrinous or nutritive material, but an imperfect vitality or organizability of this material, so that when deposited instead of being assimilated to the textures, it forms the degenerated structures or mere granular or amorphous deposits, which we have been describing. But with this condition of the blood, these deposits must be greatly promoted by all varieties of hyperæmia, and prevail most in organs which receive the largest amount of blood. Hence, the peculiarly pernicious effect of inflammation of internal organs, especially the lungs, in scrofulous subjects. Even acute inflammation may be unequal to raise the nutritive material to a plastic standard at which it may be organized or absorbed, or to mature it to the process of complete suppuration by which it may be speedily excreted; but the matter thrown out is cacoplastic or curdy lymph, remarkable for its opacity and want of cohesion, or a caseous kind of pus, inorganizable, inert, irremovable by absorption, and permanently obstructing or compressing the structures in which it accumulates, until it gradually excites an irregular destructive suppuration or ulceration, forming vomica, or imperfect abscesses pervading the structures, and without walls capable of healing, whilst under the depressing and irritating influence of the morbid matter decaying and becoming decomposed, the body wastes with hectic fever, night sweats, and colliquative diarrhæa. So likewise fevers, by causing congestions in organs, lead to the production of a *crop* of these deposits, from which tuberculous disease takes its origin."—pp. 396–7.

The several circumstances which contribute to render the lungs especially liable to tuberculous deposit, are, in the author's opinion, "1. Their great vascularity and the large quantity of blood that passes through them, which makes them largely partake of any disorder in the condition of this fluid. 2. There being a chief seat of the formation of fibrin, that principle being more abundant in arterial than in venous blood. 3. The softness and yielding nature of their texture, which permits effusion to take place more readily than denser textures do. 4. Their exposure to external causes of diseases, whether by cold and irritations directly entering by the air-tubes, or by circumstances operating through the medium of the circulation. In hot climates, cacoplastic diseases affect the liver and other abdominal viscera more than the lungs; the same persons there suffering from chronic liver disease and dysentery, who, in a cold climate would fall victims to phthisis."—p. 398.

In the treatment of tubercle, Dr. Williams states that his experience leads him to speak highly of the cod-liver oil; he says that it is "assuredly the most efficacious of all medicinal agents in the treatment of cacoplastic and aplastic deposits, and one which, after two years' constant experience in its use, is still frequently surprising me by the wonders that it occasionally works even in aggravated and advanced cases of scrofula, mesenteric disease, pulmonary consumption, chronic pneumonia and pleurisy, and chronic rheumatism."—pp. 404–5.

The best effects have generally resulted from the use of the purest kind. It is important that it should be as free from taste and smell as possible, and should be deprived of most of the stearine, by cooling and settling, or by filtration. That cod-liver oil owes its efficacy to the iodine it contains, Dr. W., in common with most practitioners who have employed it to any extent, does not believe. His theory of its mode of action will be found in the following extract.

"Such an oil (purified) given in doses gradually increased to a table-spoonful three times a-day, in the great majority of cases, agrees well with the stomach and bowels, increases rather than impairs the appetite, and, if continued for some weeks or even months, promotes in a marked degree the function of nutrition,

increasing the strength as well as the flesh, and giving increment to all the textures. Nor is this surprising when we consider that the nuclei or rudimental molecules of all structures appear to consist of fat, which the oil in its highly divisible state, supplies and renews in the manner most conducive to active and healthy nutrition. Its peculiar fluidity and little proneness to change also enable it to pervade all structures, and to penetrate even into imperfectly organized deposits, and by softening their concrete fatty molecules, and rendering more permeable and supple their whole mass, brings them more under the influence of the adjoining living parts, through the circulation in which either their vitality and nutrition are improved and maintained, or if incapable of improvement, they are gradually dissolved and absorbed away."—p. 404.

The sections on non-malignant and malignant morbid growths, contain a well-digested summary of the best views on these subjects, and may be consulted with profit.

Chapter fifth treats of the classification, symptoms, and distinction of diseases. Semeiology and diagnosis are hardly touched upon. We had hoped that the author's leisure would have enabled him to place these subjects on a level with the rest of the work; but this, it seems, either did not enter into his plan, or else he has, for some reason, been unable to accomplish it. These sections are very unsatisfactory. The section on prognosis has not fared better, but is somewhat redeemed by the excellent account of the various modes of death. The chief varieties are thus tabulated:

Death (cessation of function) beginning at the heart		{ Sudden=syncope.
		{ Gradual=asthenia.
—	—	beginning at the breathing apparatus=Asphyxia or apnoea.
—	—	beginning at the brain=Coma.
—	—	beginning at the medulla=Paralysis.
—	—	beginning in the blood=Necræmia (<i>νεκρὸς</i> , dead; <i>αἷμα</i> , blood).

The concluding and seventh chapter, on prophylaxis and hygienics, of forty-four pages, has been nearly entirely added. Though it might, perhaps, have been advantageously extended, it is very valuable, and written with that sound discrimination and good sense which distinguish all the practical portions of the work. It is, indeed, the best hygienic code that we ever remember to have met with.

We now take a regretful leave of Dr. Williams. Of the character and value of the 'Principles,' the reader will be enabled to form an opinion from the analysis we have presented, and the extracts we have made; he will, we believe, think it entitled to claim his best attention, and that its perusal and study will be amply remunerative. It is a work calculated to elevate the character of medical science, from its correct and lucid exposition of the great principles of scientific investigation; and its plain, practical character, will recommend it to the student and practitioner of medicine and surgery. The author observes, "that whilst he feels grateful for the approbation with which this work has been honoured by scientific men, both in this [Great Britain] and foreign countries, he is especially gratified by the favour with which it has been received by practitioners of great experience." We think that the author has ample reason to express the hope that his "attempts to combine science with art, and to place the practice of physic on a more rational basis," have not been altogether unsuccessful.

M. C.

ART. XIII.—*Lectures on Yellow Fever; its Causes, Pathology, and Treatment.* By JOHN HASTINGS, M. D., United States Navy. 8vo. pp. 69. Philadelphia: Lindsay & Blakiston, 1848.

A CLOSE analysis of the various histories of yellow fever, as it has occurred in different localities and at different periods, that have been recorded by various observers, would show, we believe, very conclusively, that under this title are included several forms of disease, which, though they may resemble each other in some of their leading features, are, nevertheless, distinct in their true pathological characters. It is difficult in any other way to account for the discordance, in regard to almost everything relating to the disease, which marks the descriptions of it furnished to us by different writers, of whose fidelity and accuracy of observation we have no reason to doubt. Discrepancies of opinion in regard to the etiology of yellow fever, and discordant views in regard to its true pathological character we can easily understand, but we cannot account for the history of the ordinary symptoms and progress of the disease, and of the lesions discoverable in the bodies of those in whom it has proved fatal, furnished to us by one authority, differing materially from the history furnished by another authority of equal respectability, excepting upon the supposition that the two histories have been drawn from cases not of the same, but of different affections, resembling, but not identical with each other.

In the work before us, Dr. Hastings furnishes us with the result of his observations upon the causes, pathology, and treatment of yellow fever, which certainly differ in many important particulars from the observations recorded by others. As this gentleman's opportunities for studying the disease have, however, been unquestionably very extensive, his conclusions in relation to the disease are deserving of an attentive consideration.

In relation to the all-important and much contested question of the cause by which the disease is produced, Dr. Hastings is very positive that the yellow fever is generated invariably by the malaria or exhalations from an alluvial marshy soil, subject to periodic inundation and draining; the poison being eliminated during the process of desiccation under a high degree of solar heat. He states it as a positive certainty, that where yellow fever prevails, there is also found every variety of intermittent, and very generally, all varieties of remittent and bilious fever; these diseases, arising, in his opinion, from the same poison, but in different degrees of intensity.

This error has been so frequently and conclusively refuted, that we must express our surprise that Dr. H. should again bring it forward and announce it in so positive a manner. Though the facts he adduces in reference to the circumstances under which the disease occurred in the lower portion of Florida, and on the coast of Mexico, would appear to establish the correctness of the views advanced by him; yet allowing to these facts all the weight that can be justly claimed for them, they are met by a host of others, which are entirely opposed to the conclusion which the author has drawn from them.

Dr. Hastings has never seen a single instance where there was the least cause to suppose that the fever originated on board of ship, notwithstanding he has frequently seen ships in the conditions said to give rise to it; and never saw it on board of any of them, unless it was prevailing on shore, and then, even, he has seen vessels escape for a long time, when, according to the views entertained by others, they should have originated the disease.

The facts adduced by the author in support of this statement are, we confess, particularly strong, but they do not strike us as conclusively supporting his general position in regard to what he supposes to be the only source of yellow fever.

Dr. Hastings believes, that in every instance in which the disease occurs on board of ships, whether at sea or upon the coast, it is produced by malaria carried to them from the land through the medium of the air. The evidence which the author cites in proof of this position, is, in our opinion, not very strong. If the malaria giving rise to yellow fever can be conveyed to great distances through the

air undispersed, and undiluted by the latter, how happens it that when the yellow fever makes its appearance in a city, it is very generally confined to particular districts, beyond which it is seldom found to extend?

Our author denies the contagious character of yellow fever. He does not believe it possible to create the disease in a person confined among, and waiting upon any number of those affected with it, provided these are removed from the district where the disease was contracted, to a position known to be free from its invasion, and attended by persons who had not been exposed to the disorder, otherwise than by contact with the sick. He has seen at Indian Key, Florida, where the naval hospital was situated, in the epidemic of 1841 and '42, patients admitted in every stage of the disease, and even the bodies brought there of those who had died of it at other places, and yet without a single case occurring upon the island.

The history of the symptoms and ordinary progress of yellow fever as laid down by Dr. Hastings differs in some particulars, from that given by others. It certainly does not agree, in a few important points, with the general features and march of the disease, as it has fallen under our notice in Philadelphia. The remarkable subsidence of all the more violent symptoms, which usually takes place about the third, fourth, or fifth day of the disease, and leads the inexperienced observer and the deceived patient to conceive hopes of recovery, when, in very many instances, the remission is to be followed, after a few hours, by the black vomit and a state of collapse; is a circumstance, remarks Currie, in his work on the *Endemic Diseases of the United States*, without a parallel in the history of fevers, and may therefore be considered as pathognomonic of yellow fever. This peculiar feature of the disease, which is noticed by almost every American authority, is wanting in the general description given of it by the author; though in his remarks on the prognosis, he notices, incidentally, as a remarkable feature of the disease, a complete remission of the more prominent symptoms, which frequently occurs about the fifth day.

In regard to the pathological anatomy of the disease, the following account is given by Dr. Hastings:

"The brain and its membranes show in all cases results of active and extensive disease. The substance of the brain is rather firmer than natural, and completely engorged with blood, both upon its surface and interior structure: the ventricles are generally filled with a yellowish or bloody serum, although in some cases they are prematurely dry; yet the amount of bloody serum contained within the cranium generally is very large. The substance of the brain is so fully charged with blood, that when the medullary matter is cut across, numerous points bleed freely; and its whole structure is so coloured by the amount of blood contained in it, that there is but little difference existing between the medullary and cineritious matter. The membranes of the brain are all thickened; the dura mater particularly so in the region of the superior longitudinal sinus; and the glands of Pacchioni are very much enlarged. The arachnoid membrane is greatly thickened, of a pearly hue, and tears with difficulty, compared with its delicate normal condition. The pia mater is thick and whitish, like the arachnoid, to which it is firmly adherent; there is often a quantity of partially organized lymph thrown out upon the surfaces of these two membranes, sometimes an eighth of an inch in thickness; and I have even seen it nearly a quarter of an inch thick, having found these two coverings so thickened and strengthened by the process of inflammation, that I have held the whole mass of the brain, engorged as it is, and with the dura mater attached, by these two delicate membranes, that in their natural condition break at the slightest touch. •

"The alterations of the spinal marrow and its membranes are the same as those found in the interior of the cranium. The vessels of the membranes of the brain and spinal marrow are greatly distended with blood.

"The heart and lungs are not at all affected in yellow fever."

"The stomach is filled with, or contains a large quantity of black vomit; its mucous membrane is thickened to twice its healthy condition; it is dark-coloured, softened, and in a state of sphacelus, and frequently removed in large patches, particularly about the cardiac orifice. Throughout the rest of its surface, it is so soft that it is easily removed by the handle of a scalpel, or the finger nail, and it is also about this orifice and smaller curvature, greatly injected with blood.

Throughout its surface, are small bright scarlet spots, looking so much like fresh drops of blood, that I have seen the finger of those unaccustomed to these examinations, passed over them, thinking to brush these stains away. But they are fixed in the mucous membrane. This condition extends to the pyloric orifice; from this out, the intestines, both large and small, are unaltered and natural, with the exception of a slight degree of congestion or injection of the mucous membrane of the duodenum."

"The liver undergoes a very great change. It is rather contracted and of a yellow colour, resembling very much the colour of old box-wood; this is particularly observable on the anterior part of the right lobe, although it pervades more or less its whole structure. Its substance is very much firmer than natural, indeed, it is almost of a cartilaginous consistence; so much so, that it is nearly impossible to penetrate a piece of it with all the force you can exert, when holding it between the fingers and thumb. It cuts with a hard, shining surface, and tears rather smoothly; its normal or granular appearance being almost or entirely lost."

"The gall-bladder is natural and contains a moderate quantity of dark bile. The spleen is unaltered, except in cases where the deceased had suffered from frequent attacks of intermittent fever; in these cases it was enlarged and softened."

"These comprise all the changes effected by a fatal attack of yellow fever terminating upon the seventh day.

"In the second case, wherein the disease comes to a fatal issue upon the fourteenth day or at a later period, very different pathological appearances present themselves. In these cases, the brain and spinal marrow are softened; their membranes are thickened, and there is generally a very large amount of yellowish or bloody serum within the cranium and spinal canal. The heart and lungs are healthy. The stomach is in much the same condition as already described: but the mucous membrane of the duodenum, small and large intestines, is greatly injected, thickened and softened, of very dark colour, and in some cases removed or destroyed in patches. The glands of Peyer and Brunner are injected and enlarged. The whole track of the mucous membrane resembling the change of structure met with in patients dying of typhus fever, but not to the same extent. The stomach is sometimes filled with black vomit, and the intestines contain dark matter resembling it. The mucous membrane of the bladder is injected with blood, and spotted with many scarlet points. The spleen, if altered at all, is rather softer than natural." "The liver is engorged with dark blood; about natural size, of dark colour and softened. The kidneys and other viscera are found to be in normal condition. The blood remains in its liquid state in those who die; but there does not appear to be any peculiarity in that taken from yellow fever patients. It is observed to be cupped, has the buffy coat and same appearances as all blood taken from those suffering by active inflammation and a high state of fever. It contains, doubtless, a large amount of bile or its constituents, owing to the crippled or suspended functions of the liver."

Dr. Hastings has made a strange misstatement in commenting upon M. Louis's account of the pathological changes observed in the fatal cases of yellow fever observed by him at Gibraltar in 1848. So far from the latter having never inquired into the condition of the brain and spinal marrow, as our author asserts, but passing them by without a word and even without observation, M. Louis informs us, that he examined the brain and spinal marrow with great minuteness; the changes he discovered he did not consider, however, peculiar to yellow fever, the same being met with in typhus fever and other diseases.

In the treatment of the disease, Dr. Hastings's chief dependence is in bleeding in the early period of the stage of excitement. Bleed, he remarks, *ad deliquium animi*—the amount of blood should not be regarded in the least—let it flow until the fever breaks, and the skin upon the forehead becomes moist. Calomel in large doses, followed by the sulphate of magnesia; blisters to the epigastrium and hypochondrium;—the blistered surface being dressed with mercurial ointment, in order to bring the system under the influence of mercury, and to keep up a mild degree of pytalism for about seventy-two hours from the commencement of the attack; during which time not a mouthful of anything should be taken into the stomach unless the vomiting continue. The bowels to be kept open by enemata of

Castor oil, turpentine, and some mucilage; the thirst to be allayed by ice or iced water held in the mouth, but not swallowed.

For irritability of stomach, he directs from a quarter to half a drop of creasote, dissolved in ether or acetic acid, every hour,—combining it, when there is great excitement of the nervous system, with small doses of morphia. Iced water is to be kept constantly applied to the head, and the skin sponged with cold water when it becomes hot and dry. Sinapisms are directed to the spine to relieve the pain in the small of the back.

When, as it sometimes happens, after the lapse of twenty-four or forty-eight hours, or more, the skin becomes hot and dry, with violent pain in the small of the back and throbbing pain in the head, with disposition to coma, the author directs a repetition of the bleeding; and is satisfied in his own mind that he has saved life by so doing; although, he remarks, the necessity for a second bleeding does not arise in more than one case in two hundred, or at least in one hundred.

“When the above system of treatment is carried out, rigorously, the patient generally, on the fourth day, but at most universally on the fifth, is free from all fever, and has not a bad symptom left, and desires something to eat, and if he be moderately indulged with a little gruel of tapioca or some such innocent diet, sweetened, spiced, and seasoned with wine, he will improve very rapidly; at the same time, that is, from the fourth or fifth day, he should be allowed to drink weak brandy and water—this is one of the best stimulants that can be employed—but he should be stimulated gradually; and, from this time, no other medicine will be required than small doses of extract of colocynth or taraxacum and blue mass. Where the nervous system is much disturbed, small doses of strychnia can be added with advantage, followed occasionally by a Seidlitz powder, merely sufficient to correct the tendency to constipation, which exists for some time during recovery.”

Dr. Hastings considers that no disease is more entirely under the control of medical treatment than yellow fever, nor is there any one more imperatively demanding it.

We have considered the above notice of the work before us due to its author. His opportunities for studying an important disease have certainly been sufficiently extensive, and his object in publishing the result of his observations, which are in the main interesting, has been evidently to instruct his fellow-practitioners. While, however, Dr. H. feels a firm conviction of the truth and correctness of the views he has advanced, we fear that his estimate of the facts that have fallen under his notice has been, occasionally, somewhat superficial and one-sided, and that his deductions cannot be received as invariably accurate; while, in more than one instance, the style in which his observations are communicated is liable to well-founded objections.

D. F. C.

ART. XIV.—1. *Thirtieth Annual Report of the Physician and Superintendent of the McLean Asylum for the Insane.* Boston: 1848.

2. *Twenty-fourth Annual Report of the Physician and Superintendent of the Retreat for the Insane.* Hartford: 1848.

3. *Thirty-first Annual Report of the State of the Asylum for the relief of Persons deprived of the use of their Reason.* Philadelphia: 1848.

4. *Twentieth Annual Report of the Physician and Superintendent of the Western Asylum.* Richmond, Va.: 1848.

5. *Annual Report of the Superintendent of the Kentucky Lunatic Asylum.* 1848.

6. *Reports of the Physician, and the Superintendent and Resident Physician of the Lunatic Asylum.* Columbia, South Carolina: 1847.

1. DR. BELL's report is unusually brief, being restricted to “a general view of the institution and its results for the year.” He has confined himself to these narrow limits, for the purpose of giving room to the accompanying communication from a committee of the Trustees of the Massachusetts General Hospital, on the history and results of the administration of sulphuric ether as an anæsthetic agent.

The following are the statistics of the McLean Asylum for the year:

	Males.	Females.	Total.
Patients at the beginning of the year - - -	88	85	173
“ admitted during the year - - -	94	76	170
Whole number under care during the year - - -	182	151	343
Discharged during the year - - -	89	81	170
Remaining at the end of the year - - -	93	80	173
Of the patients discharged, there were cured - - -	42	45	87
“ “ “ “ much improved - - -	4	5	9
“ “ “ “ improved - - -	9	7	16
“ “ “ “ unimproved - - -	15	6	21
“ “ “ “ died - - -	12	9	21

“The bill of mortality,” says the report, “is unusually large. This is ascribable, in part, to the fact, that in the preceding year the number of deaths was only nine—less than half the ordinary average; throwing upon the then ensuing period quite a number of aged, feeble, and epileptic. The existence of a severe, intractable, epidemic dysentery, prevalent also through the county, occasioned us the loss of twelve patients, out of eighty in our household who were seized with the disease.”

The large ratio of cures is attributed to a provision by which the Asylum is enabled to retain almost every case until a fair trial of restorative means was made. Could other institutions enjoy a similar advantage, the number of cures at many of them would be materially augmented.

Dr. Bell makes the following remarks upon the subject of new remedies. “It has been our aim to adopt any outlay for every real improvement which the experience of the world has offered in treating those disorders, one of the symptoms of which is alienation of mind. Aware, from frequent disappointment, that many of the novelties, moral and medical, which furnish a hope to the sanguine, and a newspaper paragraph to the curious, have but an ephemeral existence, we have each year found ourselves less hopeful as to new means of treating the insane, and have been gradually attaining the belief, that that institution which most closely pursued and thoroughly carried out the views presented a half century since by Pinel and Tuke would best fulfil its great end. The investigation of Moreau and others, into the properties and effects of the drug termed *hachisch*, in producing a continuous state of happy reverie, calculated to replace simple melancholy or functional nervous depression; and the recent discovery of the effects of those wonderful agents, the inhalation of the vapour of ether and chloroform, rekindle the hope that some forms of insanity may yet prove to be more immediately under the controul of direct medical means, than they have been found under the present advance of science.”

2. From the report of Dr. Butler, of the Hartford Retreat, we glean the following items:

	Males.	Females.	Total.
Patients at the beginning of the year - - -	56	62	118
“ admitted during the year - - -	39	54	93
Whole number under care during the year - - -	95	116	211
Discharged during the year - - -	36	53	89
Remaining at the end of the year - - -	59	63	122
Of the patients discharged, there were cured - - -	12	28	40
“ “ “ “ much improved - - -	5	5	10
“ “ “ “ improved - - -	8	6	14
“ “ “ “ unimproved - - -	7	6	13
“ “ “ “ died - - -	4	8	12

Causes of Death.—Epilepsy 1; exhaustion 3; apoplexy 1; consumption 1; old age 1; marasmus 1; paralysis 1; disease of brain 1; uterine disease 1; suicide 1.

Since the opening of the Retreat, 1764 patients have been admitted, and 1642 discharged. Of the latter, there were recovered 942, improved 557, died 143.

The following remarks on some of the causes of insanity are worthy of notice:

“Of the one hundred and eighty-seven female patients admitted during the past three years, 34 per cent. were the wives of farmers or mechanics. It must

be that this is an undue proportion of the comparative number of that class in the community. Many of these are young women, who leave nursing, or quite young children at home. The frequency of this occurrence, and its obvious causes, require more than a passing remark. A few brief suggestions may lead, hereafter, to a better understanding of these causes, and consequently to their avoidance. Many of this class present themselves at the institution; either in the high excitement of acute mania, or in the deep and oftentimes suicidal depression of melancholia; in all cases greatly exhausted, and most evidently worn down by hard work and anxiety, undue mental and physical effort, as classed in the table; though sometimes, other and more obvious causes (though less real), are received and recorded by us. In many cases, not having received in early life a judicious physical or moral training for her new and arduous station, the young wife, impelled by affection and an honest pride to her utmost efforts, soon finds that, with her increasing family, the burden of care and duties increases; while her physical strength and capacity of endurance diminish even in a greater ratio.

"An economy sometimes deemed necessary, now often ill-judged and cruel, leads the husband to refrain from supplying the necessary domestic assistance; the nurse is discharged too soon, and, sometimes, no suitable one is provided. In addition to their own proper household, an eagerness for gain leads him to take boarders from the operatives in the neighbouring factories, for whom the wife must cook and otherwise provide, and often the day proves too short for the accomplishment of the necessary duties, and her labours are protracted to a late hour of the night, and the broken slumbers of the remainder of its hours of rest give little refreshment.

"Thus, it must naturally follow, that, between childbearing, nursing, and the accumulation of household duties and drudgery, the poor, heart-broken, and disappointed wife loses in turn her appetite, her rest, and her strength; her nervous system is prostrated, and, sinking under her burden, she seeks refuge in a Lunatic Hospital. This process of inducing insanity, is by no means limited to the above mentioned classes; the same thing, differing more in degree than in manner, is too often seen elsewhere."

3. In the Asylum at Frankford, the number of patients at the beginning of the year, was

	Males.	Females.	Total.
Admitted during the year - - -	26	32	58
Whole number during the year - - -	16	21	37
Discharged during the year - - -	42	53	95
Remaining at the end of the year - - -			40
Of the patients discharged, there were cured -			55
" " " " much improved			24
" " " " improved -			2
" " " " unimproved			3
" " " died -			8
			3

Causes of Death.—Inflammation of bowels, 1; apoplexy supervening upon the paralysis of the insane, 1; mortification following erysipelas, 1.

The method of endeavouring to manage the insane by equivocation, deception and falsehood is so general in the community, that the following judicious remarks cannot be too widely circulated.

"We think it necessary to call the attention of those who may have the care of the insane, to the great importance of observing towards them such a course of conduct, as will tend to inspire them with confidence—of treating them with kindness and candour, and especially of avoiding every attempt to impose upon them, by promises which are not meant to be fulfilled.

"There seems to be a fear prevalent with many, of speaking frankly to the insane on the subject of their disease, and great care is taken to avoid any reference to the subject. This, in many cases, induces a resort to equivocation, or to holding out to patients other motives or objects than the real ones, for the course which is deemed necessary to be pursued towards them. It is too often thought

to be not only justifiable, but advantageous to influence the insane in this way, though they nearly always have acuteness enough to discover the deception, and are far more apt to have their suspicions excited, and their fears increased, than to be benefited in any way by such treatment. When it becomes necessary to resort to restraint on their movements, or to a course of medical treatment to which they object, it is much better to inform them of their real condition, and of the necessity of submitting for a time to the judgment of others, rather than attempt to gain upon them by misrepresentations, or promises which are never intended to be fulfilled. It may be said, that the insane generally are not averse to placing confidence in those about them, and that it is not until they find that some advantage has been taken, or some deception practised upon them, that they become suspicious, and imbibe that dislike for their nearest friends, which is thought to be so common in their disease.

"These remarks apply especially in cases where it is contemplated to remove the insane from their homes, and to place them under treatment in an asylum or hospital.

"When this is decided on, they should always be informed of the determination; and, if they are capable of understanding them, the reasons which have induced their friends to come to that conclusion should be explained. When this is done in a proper manner, it is very seldom that they will not submit quietly to the wishes of their friends; and invariably such a course occasions much less trouble and anxiety than when a different one is pursued. The patient enters the institution in a much better condition, for the beneficial action of those means which are to restore health. In several instances which have come under our notice, the disease has been aggravated, and recovery manifestly retarded by the irritation and excitement that have been produced, in consequence of the want of that respect and regard for the feelings of the insane, which would dictate the plan of dealing with them which is here recommended."

4. In consequence of an act of the Legislature of Virginia, requiring the superintendents of Public Institutions in that State to prepare their annual reports up to the 30th of Sept., instead of to the close of the Calendar Year, the present report of Dr. Stribling, of the Western Asylum, embraces a period of but nine months, from the 1st of Jan. to the 30th of Sept. 1847.

	Males.	Females.	Total.
Patients on the 1st of January - - - -	123	94	217
Admitted during the nine months - - - -	19	20	39
Whole number under care - - - -	142	114	256
Discharged during the nine months - - - -	-	-	49
Remaining Sept. 30th - - - -	-	-	207
Of those discharged, there were cured - - - -	-	-	23
" " " much improved - - - -	-	-	2
" " " improved - - - -	-	-	3
" " " unimproved - - - -	-	-	2
" " " eloped - - - -	-	-	1
" " " died - - - -	-	-	18

Causes of Death.—Marasmus, 4; epilepsy, 3; pulmonary disease, 3; inflammation of brain, 1; congestion of brain, 1; dysentery, 1; typhoid fever, 1; hydrothorax, 1; chronic diarrhœa, 1; causes unascertained, 2.

"Within the last few months," says the report, "an all-wise Providence has seen fit to afflict us with a typhoid fever, which, confining itself to no grade, sex or color, prostrated upon a bed of languishing, many of our officers, attendants, patients, and servants. The whole number thus attacked was about thirty. The disease seemed not malignant, nor were its symptoms unusually violent; but it was remarkable for the tenacity with which it clung to its subjects. Few became convalescent until they had lingered four or five weeks, and some scarcely commenced improving until after the seventh or eighth week of their illness. Only two deaths occurred, one of them a female patient, the other a servant.

Notwithstanding the large additions which have been made to this institution within a few years, all its apartments are now continually occupied, and during the nine months embraced by the report, eighty-four applicants were refused for want

of room. Dr. Stribling therefore recommends that further accommodations for the Insane of the Commonwealth be provided.

5. By the report of Dr. Allen, of the Kentucky Lunatic Asylum, it appears that the number of patients in that institution, at the beginning of the year, was

	Males.	Females.	Total.
Admitted during the year - - - - -	129	96	225
Whole number - - - - -	54	32	86
Discharged during the year - - - - -	183	128	311
Remaining at the end of the year - - - - -			64
Of the patients discharged, there were cured - - - - -			247
" " " " " removed" - - - - -			29
" " " " " eloped - - - - -			10
" " " " " died - - - - -			2
			23

The people of Kentucky never have been, and appear still not to be aware of the importance of treating insanity in its early stages, and Dr. Allen devotes a considerable portion of this report, as he has of those which preceded it, in portraying the advantages of bringing patients to the asylum soon after the commencement of their disease. Of the eighty-six patients received during the past year, only ten were recent cases.

A large addition to the buildings of the institution is now nearly complete. In its construction much labour by the inmates of the asylum was expended, and that part of the report relating to this subject is fraught with such interest, that we extract it.

"The entire year has been one of almost unremitting toil to officers and attendants, and of much labour to patients. An amount of labour has been performed, I think I may justly say, which has nowhere else been equalled by lunatic hands.

"Those hands that have been employed about the improvements in progress, have worked steadily and willingly, and, I may add, with benefit to themselves, and advantage to the hospital.

"I cannot stop to specify what has been accomplished, but merely mention a few of the more important jobs that have been performed by them.

"The whole of the stone in the foundation of the new building has been quarried and hauled; and the brick laid in its walls, (about 1,100,000,) with the exception of moulding, were made and carried to the scaffolds, the mortar mixed and borne by lunatics. The foundation, 112 feet long, by 64 feet wide, and 10 feet deep, was dug; also, drains traversing every department of it, uniting in a common one leading thence to a cave below the spring, a distance of 800 feet, 8 feet wide by 10 feet deep, and stone gotten and placed at hand to build, throughout these drains, a sewer, with 18 inch side walls, with a covering of large flag stones, amounting to about — cubic feet of digging, and 300 perches of stone work.

"Such are the achievements obtained by encouraging the insane to moderate labour.

"In addition to all this, the ordinary labours have been performed, such as gardening, farming, &c., from all of which, abundant crops have been obtained."

6. Two reports emanate from the medical department of the Lunatic Asylum, South Carolina—one by Dr. Trezevant the attending physician, the other by Dr. Parker, the superintendent and resident physician. The statistics for the year, according to Dr. Parker, are as follows:

Patients at the commencement of the year - - - - -	70
" admitted during the year - - - - -	33
Whole number under care - - - - -	103
Discharged during the year - - - - -	29
Remaining at the end of the year - - - - -	74
Of the patients discharged there were cured - - - - -	17
" " " " " removed under improvement" - - - - -	5
" " " " " eloped - - - - -	1
" " " " " died - - - - -	6

Dr. Trezevant's report includes under the head of cures, the five patients here stated to have been "removed under improvement."

The reports include an elaborate consideration of the various means of moral treatment. Dr. T. proposes, as a new method of diversion and exercise, a machine of his own invention. As it is a novelty, we quote his remarks upon it. "I am, moreover, impressed with the belief, that if one was erected, that our now workers could be urged into action, by the spirit of fun and frolic. Many are willing to play off a practical joke, and take great pleasure in inducing them to enter into what they would call sport. The action would commence in play, but they would be compelled to go on with it, if the excitement of their feelings would not induce them to continue, and the workers would become partakers of the pleasure of the ride, and exhilarating effects of rapid movement in the open air; but, should they determine not to move, and positively refuse to work, still the very effort which they make to sustain their determination, calls the brain into action, and produces a new train of thoughts and feelings; and if they decline motion, they must hold by their hands, and use much muscular exertion, and my object will be in some measure accomplished in spite of themselves. So that whether they act in accordance to my wishes or their own will, the much desired objects will be effected. The mode proposed would be wheels connected together by an endless band, and so arranged as to act on a large horizontal wheel, on which seats could be placed similar to the flying horse. This would be exercise and amusement to all parties, and might be made to answer the purpose of a rotary chair, and by the different positions to and from the centre, excite or diminish the activity of the brain; it can be made to answer the purpose of a circular swing, and, by the centrifugal force, rouse the brain to any extent, and with the centripetal motion depress it. The force required to effect this, I will make by an endless band, on which one or more patients shall walk, and arrange it, so that no possible injury can occur; and they shall not be exercised beyond their powers, but sufficiently to make them more healthy, and cheer their minds by seeing the effect of their apparent mischief on those revolving about them. I cannot but believe, that an instrument of this kind will be beneficial to all parties, and may, with a little ingenuity, be adapted to many useful purposes."

P. E.

ART. XV.—*Practical Observations on Certain Diseases of the Chest, and on the Principles of Auscultation.* By PEYTON BLAKISTON, M. D., F.R.S.; Fellow of the Royal College of Physicians; Physician of the Birmingham General Hospital, and formerly Fellow of Emanuel College, Cambridge. 8vo. pp. 384. Philadelphia: Lea and Blanchard.

THE importance of auscultation as a means of diagnosis in the diseases of the chest being now almost universally recognized, no physician can be considered excusable who has not made himself acquainted with its principles and practice. With the consideration of auscultation, therefore, the present work commences; nearly one-fourth of its pages being devoted to this subject. The great object of the author has been to develop the principles of auscultation in as elementary a manner as possible; and, so far as mere description can do, he has succeeded in rendering the auscultatory sounds and indications plain and intelligible. In order to assist the novice and to prevent repetition in referring to the laws of sound, a short summary of such of its properties as are applicable to auscultation of the chest, has been prefixed to the chapters on the latter subject. The student will find the pondering of the present work devoted to the principles of auscultation, a very useful manual in his investigation of this essential means of diagnosis at the bed side, where alone any certain and accurate knowledge of it can be acquired.

The pathological and therapeutical observations of Dr. Blakiston in reference to some of the leading diseases of the thoracic organs, are, we are assured, the faithful report of facts observed in private and hospital practice. In almost every one of the one hundred and twenty-two cases, the details of which are introduced in the volume, the symptoms during life were witnessed and noted down by the

author: and, in the event of death occurring, he was either present at the examination, or inspected the diseased parts after their removal. Dr. Blakiston, therefore, holds himself responsible for the accuracy with which the cases have been observed, and the fidelity with which they have been reported.

The work is, therefore, to be received as a record of the personal experience of the author, rather than as a systematic treatise on the diseases which it embraces; and it is this feature which gives to it its chief value and authority.

The affections of the chest, to which the observations it records refer, are thoracic aneurism, chronic heart disease, circumscribed pleurisy, chronic pleurisy, plastic pneumonia, and phthisis pulmonalis. Upon the causes, symptoms, progress, diagnosis and treatment of each of which, the remarks of Dr. Blakiston will be found invariably interesting, and generally sound and instructive. The reader is notified in the preface that "there are certain views of treatment pervading these pages, which have resulted from the observation of disease in general, and of facts more numerous than those brought forward in this work." These relate to the substitution of mercury for venesection in acute inflammations, more especially those affecting serous and fibrous membranes, and to the employment of tonic in combination with sedative remedies in a large class of chronic disorders. Such views are not peculiar to the writer, but still, they are by no means universally adopted, or carried out in practice. As they are, in his case, principally founded on cases that have occurred in a populous manufacturing district, they may be considered, perhaps, as inapplicable to the inhabitants of other localities, where the nature of the employment and the surrounding atmosphere have a more invigorating effect on the constitution. A slight allowance, the author thinks, may possibly be required for this difference in circumstances; at the same time it must be borne in mind, he adds, "that many cases were observed among the higher classes, to whom this remark does not apply. Some old practitioners, of sound judgment, are of opinion that depletion can be less borne by persons in general at the present time than it could be forty or fifty years ago. There is probably some truth in this, for, in proportion as civilization advances, and commercial enterprise is extended, the mind is more exercised, and the nervous system more taxed, so that to a certain extent the constitution is thereby impaired and debilitated. Be this as it may, it will hardly be denied by any that venesection has been, and is still practised with too little caution and discrimination."

We cannot go to the full extent the author has in his opposition to venesection in the acute inflammatory diseases, for, however correct his remarks may be in reference to those diseases as they occur in the communities to which his practice was principally confined, they will not apply in all their force to the same class of diseases as they present themselves to the American practitioner. Nevertheless, many valuable practical hints may be derived from his exposition as well of the therapeutics as of the pathology of the several inflammatory and chronic affections of which he treats.

D. F. C.

ART. XVI.—*On the Blood and Urine.* By JOHN WILLIAM GRIFFITH, M. D., F. L. S., &c., G. OWEN REES, M. D., F. R. S., F. G. S., &c., and ALFRED MAREWICK, M. D., &c, in one volume—pp. 182, 165, 113-460. Philadelphia: Lea & Blanchard, 1848.

THE three treatises, contained in the volume before us, form a valuable addition to our yet scanty stock of works upon the blood and urine. The authors, whose separate productions have been thus collated, are well known for their industrious researches in the field of humoral pathology, and their opinions and observations are entitled to our fullest confidence. If it had been consistent with justice to them, we could have desired that the results of their individual labours might have been condensed into a single essay; a complete treatise would thus have been formed, and the reader spared the fatiguing recurrence of many statements necessarily the same in separate works treating of one subject. Although each of these has merits peculiar to itself, to which we will hereafter advert, they all possess in common the excellence of being clear in language and concise in detail, and the more

intricate analytical processes are rendered intelligible to every one who is tolerably familiar with chemical manipulation. The professional chemist, as well as the student and practitioner of medicine, will find much in their pages worthy of his attention. They are, moreover, the most recent works that we possess upon medical chemistry, containing the latest additions which have been made to the science. There is hardly any branch of medical investigation which has received, of late, greater attention than this; it seems, too, to have taken at last the right direction in the subordination of premature theoretical application to a severe analysis of facts. As Dr. Griffith says, "To argue that such investigations are idle, merely because each new truth which is elicited is not immediately applicable to the elucidation of some point in the history of a disease, or to the improved application of remedial means for its alleviation, is as absurd as, unfortunately, it is frequent."

The first two of these manuals treat of the blood and urine; that by Dr. Griffith is a "Description of the general, chemical, and microscopical characters of the blood and secretions of the human body," &c.; that of Dr. Rees, is "On the analysis of the blood and urine in health and disease, and on the treatment of urinary diseases;" and the manual of Dr. Markwick is entitled, "A guide to the examination of the urine in health and disease, for the use of students." It will be seen from this, that there are certain differences in the plan laid down by each of these authors, in consequence of which a full consideration of the whole subject is secured. The first of the works in the foregoing order, contains certain microscopical details, which are not touched upon in either of those which follow. The proximate principles are described before the compound fluids which they constitute; after which, an analysis is given of the more important healthy and morbid secretions. Dr. Griffith furnishes us also with a process adapted to the analysis of any fluid that may be presented for examination. His work will be found extremely convenient for reference, as it contains a great deal of information in a condensed form. As an illustration of the fullness with which several subjects are considered, we would refer to the description of the bile (p. 137), in which its following constituents: the cholic, choleic, cholinic, cholidic, fellinic and biliary acids, besides biline, biliverdine, bilifulvine, taurine and dyslysine, are successively considered, and their chemical relations and physical properties enumerated.

The method to be pursued in making a quantitative analysis of the blood is given by Dr. Rees at some considerable length; it is not difficult, however, for the reader to follow this intricate process, step by step. as the description of it is conveyed in simple and unambiguous language. The mode recommended by him is that of Andral and Gavarret, with some few modifications, and is applicable before the coagulation of the blood. When this has taken place, Berzelius's method is to be employed. Both these and other processes are given in this work.

The analysis of the urine is exposed more thoroughly by Dr. Markwick than by either of the others, and contains, moreover, the later additions to the science not included by them. He also gives a greater variety of tests for the recognition of the elements of this secretion. A very useful tabular view of the abnormal ingredients of the urine is introduced, in which these are referred to their chemical and pathological causes as far as known. The more profound study of the organic products found in this fluid is furthered by a number of chemical formulæ exhibiting their composition.

It would be difficult to specify all the interesting matters contained in these manuals, without extending this notice beyond its proper limits: we would, however, in conclusion, draw attention to the very excellent observations of Dr. Rees upon the treatment of urinary deposits. The greater number of the cases of phosphatic deposits, in which the urine is at the same time alkaline, are referred by him to a tendency in the surface of the mucous membrane of the urinary tract to the production of an alkaline fluid. He supposes that in these cases, a urine, too acid in quality, is secreted and becomes alkaline only after leaving the kidneys, in consequence of the irritation it produces upon the mucous membrane. His treatment is in conformity with this pathological view, and cases are introduced by him exemplifying its correctness. He says, "It may appear somewhat unaccountable to those who merely look to the chemical view of the matter, that

any one should expect to render alkaline urine acid by the administration of alkalies, but such was the treatment I adopted, and the result fully corroborated the correctness of the theory which suggested it as a crucial test."

In order to exhibit the impropriety of making too hasty conclusions from chemical examination of the urine, he cites the supposition which has been entertained that cubebs and copaiba will produce albuminous urine, and affirms this opinion to be erroneous. Such urine, when tested with nitric acid, does, indeed, yield a precipitate greatly resembling albumen, but which is due to a vegetable matter contained in these drugs. As a proof of the correctness of this statement, he mentions that if the urine of patients treated with these remedies, be treated with ferrocyanide of potassium, after having been first acidulated with acetic acid, the vegetable matter will be but slightly affected, while the albumen, if present, would be at once precipitated. He also states that, after the test with nitric acid, albumen soon sinks to the bottom of the vessel, but the vegetable matter will not do so until the urine begins to be decomposed. There may be much truth in these statements, but we do not think they are entirely satisfactory, for albumen has certainly been detected in the urine, by very experienced chemists, after the employment of these irritating remedies.

It has also been stated, that the use of mercury renders the urine albuminous. Dr. Rees gives a table containing fifteen cases which tend to disprove this assertion. All of these fifteen patients were salivated with mercury, and albumen was not found in the urine of any. Dr. Rees relates a case showing the *disappearance* of albumen from the urine in a case of Bright's disease, after the salivation of the patient.

To show the evil of relying solely upon the application of heat, as a test of the presence of albumen, Dr. Rees introduces a table, containing 482 cases taken promiscuously from the hospital wards, in 34 of which upon the application of heat to the urine there was a deposit resembling albumen, but consisting of the earthy phosphates. Thus seven per cent. of the whole number of cases might, by some persons, have been considered cases of albuminuria. "A little knowledge is indeed a dangerous thing," in hasty and over-zealous hands. We can sincerely commend these manuals to all desirous of information upon a subject of growing interest and importance; they can find it certainly nowhere more clearly and concisely exposed than here. We regret to note, in a work otherwise so well got up, a number of gross errors in typography, which in a reprint are hardly excusable.

M. S.

ART. XVII.—*Anniversary Discourse before the New York Academy of Medicine.* November 10th, 1847. By JOHN W. FRANCIS, M. D. Published by order of the Academy. New York: 1847. 8vo. pp. 112.

WE have read with much gratification the discourse of Dr. Francis, as a well-timed, high-toned, and sensible appeal to the profession upon topics in which they are deeply interested: opening with a rapid survey of some of the striking peculiarities of the age, which render the first fifty years of the century the most remarkable connected with the history of man, Dr. F. observes, that a "remarkable characteristic of our Republic" is the principle of *association*, which is so powerful an agent whether for good or evil, and of which the advantages have been chiefly felt in its application "to self improvement and the augmentation of knowledge, to eleemosynary and charitable designs, and to fiscal experiments." It is under the first of these heads that the institution whose members he was addressing, was placed—an institution, resulting from the wants of the profession itself, and the community at large.

"An Academy of Medicine in this city (New York) was a moral necessity; it was demanded by the daily increasing perversion of a noble science, by the sullied dignity of an honourable vocation, by the predominance of evils of saddest issue, and by the long-neglected claims of injured humanity. This language cannot, I apprehend, be deemed too forcible, when contemplating the condition of practical medicine, in this our own day and generation. Yes, the venerable art

of physic, rich with the achievements of the mightiest intellects, and the accumulated wisdom of more than two thousand years, with its divine claims of origin, and its vast train of blessings in our behalf, seems threatened with distrust of its noble capabilities, to have lost of its repute as a disciplined science among us, and to have surrendered its long-earned resources to the specious appearances, and absurd practices, which the necromancers and zealots of the darkest ages might hesitate to tolerate. How sadly such a condition of the profession harmonizes with the great objects of the sacred art! Philosophy can scarcely abide the reflections which spring from an examination of the causes which have led to the formation of this Association of the disciples of *Æsculapius* in behalf of their cherished science. That ignorance of the laws of life, of the rules of health, and of the remedial powers of medicinal substances, prevails to a wonderful degree, even in exalted places, is an incontrovertible position; and hence the innumerable calamities which popular delusion in the curative art entails. Most unfortunate for its victims, like fraud in fiscal concerns, it has a wider influence in its effects than with the immediate objects with whom it traffics. Its dire malignity is often extended through a large circle of the unconscious and unsuspecting.

"There is at times an obtuseness in the public mind in regard to the legitimate claims of the profession, a want of discrimination in recognizing the genuine tokens of success, and an absence of veneration for the dictates of experience. The new, the striking some wild fancy, or chimera, a system which appeals to the curiosity, or flatters the imagination, is often suffered to blind the vision of the multitude to the utility of positive knowledge, and the appeal to unaided truth. Insensible or indifferent to the responsibilities of the profession, countenance is given by individuals of high social position, equally as by the illiterate and the vulgar, to measures, the inefficiency of which has been proved by long established facts. The wisdom slowly but surely earned by positive experiment, is thus thoughtlessly put aside for the speculations of the hour, and absurdities a thousand times exposed. How deservedly contemptible, nay, criminal, may all this be pronounced, in an age which boasts its general intelligence! Yet what mind, of comprehensive views, that looks truth in the face, observes the relation of things, and calculates consequences, but must feel assured that this great enormity must lead to its own destruction, and that the hour of retribution must arrive. Its toleration cannot much longer be granted. The mischief which it engenders, wide as is its influence, assimilates little with the enlightened philanthropy of the times; it must disperse as the product of a period, portentous of novelties, too much devoted to sordid concerns, and criminally indifferent to the value of human life. Nor is there need of any marvellous sagacity to foretell the future. The abettors of these unhallowed schemes already appear dissatisfied with their own doings; and, distracted by the conclusions of their own understandings, already they begin to suspect the fidelity of their senses, and seem alarmed at the skepticism of their deluded victims. To hasten so beneficial an advent, to disenthral a people thus abused, on a subject of deeper interest than even wealth, according to popular estimation, is a design of no ordinary importance. More exalted motives to action in this deplorable condition of medical practice, can never influence man in his associate relation, nor higher objects awaken his zeal, or greater good follow his efforts. With fixed intentions to exercise a duty which has become imperative, if we would claim the homage of pure disciples in our high calling, and in default of public solicitude, the errors and absurdities which beset us, to the disgrace of the Hippocratic art and the sacrifice of human life, must be visited with a wholesome supervision, both as a labor of love and as a duty the most exalted. A strenuous yet peaceable policy is to be cherished, and liberal maxims inculcated; yet between alternatives, a preference is to be given to a just and honourable maintenance of legitimate medicine, rather than a disgraceful repose when her proper sphere is invaded. Nor can a richer recompense be promised to the state at large from the measures which this Academy contemplates, in its potential character, by a wise exercise of its powers, and an unwavering prosecution of its disinterested designs."—pp. 9–12.

Upon this text, Doctor Francis enlarges through several pages, showing in a forcible manner, and with the warmth of an ardent votary of the science whose noble claims he vindicates, the errors under which society labours respecting it,

and respecting these who are the honourable and intelligent exponents of its great and charitable mission. He warns the sound physician that while he has an abiding confidence in the great truths of his profession, and embraces that "philosophy which enlarges our powers and thus blesses us," he must not confound "it with that empiricism which robs us of our dearest possessions, and cripples the means on which humanity relies."

"It cannot be disputed that the widest difference exists between that wise conservatism which advances with cautious induction by known truths, to others still hidden, and that restless spirit of innovation, which, in order to secure its ends, spurns all control, and rejects the clearest demonstrations established by our predecessors for the best interests of man. I am ready to allow that every man's brains are not possessed of like faculties; and we know that there are unconscious dupes as well as artful knaves, and that the organ of credulity is in some cases of so disproportioned a size, as to usurp the controlling faculties of some of the best minds. But philosophy has her prescribed laws, and is tenacious of allegiance to them. She presents herself in the simplicity of truth: and if we would unlock her secrets, we are to pursue her with singleness of purpose, and in our process be consistent with ourselves. If she ask for bread we would not give her a stone. It is the mistaken, the perverted, the unhallowed treatment she receives from some who call themselves her disciples, and the evils which afflict society from this source, of which I complain."—pp. 20-1.

An indignant and high-toned lecture is then read to those who deny the profession as one which keeps not pace with the improvements of the age in almost every branch of knowledge, and we are told, not *ex cathedra*, but with the proofs of the statement placed before us, that so far from this being the truth, those who will compare the amount of knowledge of a very recent period with that at present in possession of the profession, will be astonished with the strides it has made.

"In short, the practice of physic has participated in every improvement, it has advanced by every discovery, and enriched itself with every new truth fitted to its designs. The answer seeks no equivocation; skepticism may hesitate, but the disciples of Apollo remain unshaken in the great truth: the science of healing, embracing practical medicine and the surgical art, never fulfilled its sacred mission to the measure and extent of the blessed powers it now summons to its trust."—pp. 31-32.

After some allusions to the improved statistics on which life-assurances are based, Dr. Francis says:—

"I should not have dared to detain you so long to disprove the declaration, that the profession is behind the age, reluctant of improvement, fearful of new principles, and contented with the knowledge of our forefathers. The utterance of such sentiments has often annoyed me, when I knew how hard we toiled to better the condition of the afflicted; what midnight cares absorbed us, what pains and penalties we endured, to become the successful prescriber; but this is not all: sentiments like these too often proceed from the enlightened members of the most sacred profession; and hence, actuated by the belief which such opinions sustain, they, with all their benevolence, superadded to the weight of their sacerdotal office, sustain theories, and give credence to alleged facts, which are often at war with the best established principles of medical science, and indirectly do harm to that calling which is like unto their own corporeal nature, demanding physical relief, as the immortal soul the support of divine counsel. There is not one among you, who is not qualified by experience to appreciate the bearing of these imperfect remarks; and sorry am I to say, that nothing other than my duty in discharge of the service I am summoned to perform, has led to an allusion to such occurrences. The Right Rev. Bishops of the Church of Great Britain, with their subordinates, who set forth in solemn testimony their convictions of the cures in diseases derived from Perkins' metallic tractors, humiliating as was the spectacle, impugned not the orthodoxy of their religious faith; but it would be difficult to exonerate them from blindness in observation, and fallacy in judgment, in medical affairs. Pope Innocent II. forbade all the clergy to meddle with physic. He was wrong in the universality of his prohibition. There are intellects in that order of men, who, with profundity in the requisitions of their own vocation, add the precious treasures of the heart and of the head, and can scan the grounds of our practice

however astute may be the doctor. Yet, on the other hand, there are examples which show us, that even in the priesthood, as in the profession of the law, sometimes the most exalted in their specified pursuit are bad umpires in medical cases.

"I well remember an interview I enjoyed with the late Rev. Dr. John M. Mason, the unrivalled preacher of this country in days past. He had repeatedly travelled abroad, and extensively visited Great Britain. He was asked why he did not give to the public the results of his observation. 'Alas!' he replied, 'what sort of travels can I write? I neither understand the nature of the air I breathe, nor the water I drink, nor the earth I tread upon: my life has been appropriated to polemical divinity.' The frankness of this answer was characteristic of this honest and great man, who long bore the name of the American Paul. But no more. I should feel deeply aggrieved if these recitals on the art of healing led any to suppose I was deficient in reverence to the ministers of gospel truth. They have too many points of resemblance in their career with our profession, not to excite our esteem and affection: their office is humanity; their service springs from the grandest principles of our nature. We meet, together, in season and out of season, too often, the same objects of distress; we approach the same sufferer, and mutually commiserate his calamity; we are wearied in mind and in body by the same agonizing causes. We sympathize with each other in beholding the uncertain struggles of life with death; we are actuated in the ministration of our offices by a like spirit of benevolence; we know that our most certain recompense is our future reward; for few doctors, as few divines, leave this world with more riches than they first entered it. Like offices, like impulses, like sorrows, like gratifications, and like reflections endear us each to the other. These messengers of peace, to use the language of the Earl of Peterborough, are often most delicious creatures; and if we be enamoured of our art, we will foster them as auxiliaries in our extremest need."—pp. 35-37.

Without dwelling with the Doctor upon "the high requisitions both of the heart and head for the medical profession," requisitions which are essential to the successful pursuit of medicine, and which society has a right to make of those who offer themselves as practitioners, though public opinion has too frequently failed to recognize the essential moral dignity of the profession of which the "members are brought nearer to their fellow beings than any save those who have the authority of kindred," we pass on to where he shows that medical knowledge is identical with the progress of society, a position which he enforces with many apposite and striking proofs, and concludes this part of his discourse thus:

"I think I hear the interrogatory, what inference is to be deduced from facts like these, and a thousand others of a similar nature, that might be accumulated? That medicine is a science so broad in its relations, that in every state of society, as at every period of life, it is called in requisition; that it is appreciated at a high standard by the humblest and the loftiest communities: that the rude and uncivilized, the cultivated and the most refined nations, at the most elevated eras of their celebrity, have honoured the art and its professors; that its disciples have been favoured with becoming consideration, wherever the arts, erudition and philosophy have found claims to regard: that it is a progressive pursuit; that it finds circumstances favourable to its advancement in every stage of man's civil and political condition; that in its nonage, like the other sciences, it had its struggles with imperfections; that in the most refined periods of social organization, its cultivation is most mature, and its culminating point at nearest approach."—pp. 47-48.

After expatiating upon some of the promising features of their condition as inhabitants of New York, "from a conviction that a clear understanding of the elements of life makes evident the responsibilities of the profession they have associated to elevate," he proceeds to devote the large portion of the remainder of his discourse to a series of very graphic and well-drawn memorials of some of the departed worthies who have graced and done honour to the profession in New York—many of them tributes of personal respect and genuine labours of love.

The subject of medical improvement next receives, as it must that of every reasoning and candid physician, his hearty approval.

"There are desiderata, moreover, indispensable to entire success, which patriotism calls aloud for, and which the profession invokes. If the physical condi-

tion and moral eminence of a nation depend upon the healthy scale and intellectual tone of its people, and there is a wonderful connection between them, then does it behove our rulers to do more in furtherance of the acknowledged designs of our Universities and Colleges; to aid with a liberal provision in promoting the higher as well as the common branches of professional science. The apparatus in our institutions ought to be more ample, so that our youth may need nothing to give them the fullest measures in quantity and in quality of that wisdom which can be turned to the best and most appropriate results. They may go abroad empty, and they may return filled with the learning of the schools; I shall always honour them for efforts thus made in these their laudable endeavours for knowledge' sake; but their efficiency as practical medical men is only to be secured by a proper course of study in their own land, by their becoming the observers of the diseases of their own climate, with the ethnological knowledge of those with whom they live and with whom they act. The sturdiest and most dexterous mariner on the broad ocean, may find himself a cast-away in navigating his bark on the uncertain waters of our inland seas, or by an unwarrantable confidence in the specious appearances of our mighty Mississippi. Climate has its diseases, and the topographical relations of a people will ever control their type and character. 'The immediate and diversified effects of climate,' observes an eminent American writer, Prof. Smith, of the University of the State of New York, 'are interesting to every class of persons; but to none is the study of its multifarious relations so important as to the student of medical science. Its direct influence in producing and modifying diseases and its subsidiary effects, in giving energy to causes which otherwise would be inactive, should be subjects of special inquiry with every one who wishes to attain that knowledge which will qualify him to discharge his public duties, and elevate him in the scale of professional reputation.' 'The glory of Hippocrates,' he adds, 'was derived not more from his sagacity as a pathological observer, than from his knowledge of the character of diseases, as affected by the influences of air, water, and localities.'

"Far be it from me to depreciate the talents and the attainments of the faculties of other countries. I have some idea of their worth, admire their noble and humane efforts, and do homage to their labours: but I have scarcely ever seen a European physician who came among us, who had not many things to learn over again, and to abandon some of the most cherished doctrines in which he had been taught, ere he proved a successful general prescriber for many of the maladies endemic among us. Climate, soil, habits, and occupation, nay, the very government of a people, must be understood by the physician."—pp. 89-91.

Dr. Francis then indicates some of the points that require careful and farther investigation, such as our native *materia medica*, cholera infantum, so terrible a scourge among us, but so little known in other countries, our endemic and epidemic fevers, &c., and suggests that advantage might well be drawn from the study of the diseases of the brute creation. The alarming adulteration of drugs sold as genuine in this country, deserves strict investigation, and our greatest efforts to put an end to such an iniquitous proceeding. One other train of diseases demand assiduous study, "the mental diseases, or rather the whole class of maladies traceable to the intimate connection between mind and body," a study which the doctor argues forcibly upon the attention of medical men.

Throughout this discourse, the various positions assumed are well reasoned, and illustrated with a freshness and vigour of intellect, which shows a mind constantly busied with the subjects on which it treats. It is truly able, and original, and shows in itself the advantages of the varied learning which it recommends.

C. R. K.

ART. XVIII.—*A Dispensatory and Therapeutical Remembrancer, comprising the entire lists of Materia Medica, Preparations and Compounds, with a full and distinct version of every Practical Formula as authorized by the London, Edinburgh and Dublin Royal Colleges of Physicians in the latest editions of their several Pharmacopœias: to which are subjoined copious Relative Tables exemplifying approved forms under which compatible medicines, &c., may be extemporaneously combined, &c. &c.* By JOHN MAYNE, M. D., L. R. C. S., Edinburgh. Revised, with the addition of the Formulæ of the U. S. Pharmacopœia, by R. EGLESFELD GRIFFITH, M. D., &c. Lea & Blanchard: Philadelphia, 1848. 1 vol. 12mo. pp. 329.

THIS work, as its very full title-page indicates, is a compendium of the British Pharmacopœias, arranged according to a therapeutical plan, set forth alphabetically. It, of course, presents the formulæ and directions of the *three* Colleges appertaining to Great Britain, and at a glance enables the reader to observe their disagreement or conformity. The comparison of the three Pharmacopœias, thus facilitated, must lead to the regret that a system of uniformity was not adhered to, or in other words, that by a convention or association of the wise pharmaceutical heads of Scotland, Ireland and England, one Pharmacopœia was not framed which would better answer the purpose as a standard, and comport with the advance of science. Where physicians are in the habit of prescribing as they must do, according to the standard of their locale, that of another, except in the way of curiosity, is of little importance to them. An Edinburgh practitioner expects his prescriptions to be compounded according to the Edinburgh Pharmacopœia, and a London practitioner according to the London; there can be no choice in these places; if there be any exercised in favour of a better preparation, in a standard not his own, it is with some risk as regards strength, or considerable trouble to himself and the apothecary, who may keep but one preparation. A book of the present kind, then, we regard as an exposition of the absurdity of several standards in one kingdom, which evil we hope sooner or later to see abolished.

Those interested in the perfection of pharmacy in the United States, have striven to attain uniformity, and by the publication of the United States Pharmacopœia have obtained such a standard as required; this has been engrafted on the present work, and thus we have four Pharmacopœias presented to us between which to make a choice—truly a perplexing predicament, perchance, to him who is familiar with the merits of neither. Until uniformity be established, the necessity for a work, the motto of which should be *e quatuor unum*, may be sufficient to render the publication profitable, but we would rather see the excellencies of all more completely amalgamated, and the defects of all so eradicated as to present a work complete, perfect, and unhesitatingly authoritative.

Besides a difference in the formulæ, or rather in the quantities of substances which are used in the composition of preparations, as well as in the name employed to designate the same thing, a source of error lies in the disparity of the measures used by the several colleges. The Edinburgh and London employ the "imperial standard measure," the pint containing twenty fluidounces, while the Dublin and United States use the "apothecaries or wine measure," the pint containing sixteen fluidounces. This is stated at page 286 of the work, and may be overlooked; In adopting one or the other of some formulæ, an error of one-fifth in strength, either in increase or reduction may occur, if heed be not given to the standard measure of the authority directing the preparation. The tables of weights and measures should, we conceive, have been placed at the commencement. Conjoined with what Dr. Mayne claims as an originality, "namely, an unabridged *practical* formulary of the three British Pharmacopœias; and this in addition to a full amount of collective information as to the use, &c. of the different medicines and other important points relating to remedial means and appliances," there is another novelty, which is the association of extemporaneous formulæ, so placed under each head as to be distinct. The object of this is to show how articles and preparations may be combined and what are not incompatible. This is intended to be a help to prescribing and not a substitute for it, by presenting combinations

already elaborated to suit cases, the quantities of each ingredient not being indicated.

A few pages at the end of the book are devoted to poisons, and their treatment.

As in this little volume are presented four Pharmacopœias it will prove exceedingly convenient for those who do not possess the originals, or who do not care to handle so large a work as the U. S. Dispensatory. To render it a little more so, we should have liked to see the translated Codex added.

J. C.

ART. XIX.—*The Dublin Dissector; or, System of Practical Anatomy.* By ROBERT HARRISON, M. D., M. R. I. A., &c. &c., Professor of Anatomy and Surgery in the University of Dublin. Fifth edition, Dublin and New York, 1847. 2 vols. 12mo., pp. 915.

THIS much esteemed companion to the dissecting table has undergone complete revision, and comes to us graced with a variety of cuts which speak volumes to the eye of the student. The author is very happy in his descriptions, and we think has given the best account of the anatomy of hernia extant, the careful perusal of which will amply repay the student. Much attention has also been given to the structure of the heart and its action, both of which are minutely described.

In speaking of the arrangement of the air cells of the lung, he says (after stating that several anatomists believe that the air cells communicate with each other in clusters), "My own observations on this minute structure, not merely in man, but in many other animals, lead me to concur in this opinion," but he fails to give credit to Prof. *Horner* for first announcing this arrangement.

So great a change has been brought about by the microscope, in the description of the central nervous system since the first edition of this work, that the terminology of the brain has been seriously altered, and it will be found that Mr. Harrison has kept pace with discovery; and his description of the brain and spinal marrow conveys a correct idea of the present state of knowledge on the subject.

The only objection we have to the book is its form (in two volumes), which tends to diminish its usefulness.

P. B. G.

ART. XX.—*The Young Stethoscopist; or, The Student's Aid to Auscultation.* By HENRY I. BOWDITCH, M. D., one of the physicians of Mass. Gen. Hospital. Second edition. New York: S. S. & W. Wood, 1848, 12mo. pp. 304.

HAVING already expressed our favourable opinion of this work on its first appearance (see No. for July 1846), it is sufficient, in announcing a new edition, to state that the author has embraced the opportunity to make some additions, so as to bring it up to the present state of knowledge, and to correct some inaccuracies that accidentally crept into the first edition. It is an excellent elementary treatise, clear, precise and accurate, and may, as such, be strongly recommended to the student.

ART. XXI.—*On Bandaging and other Operations of Minor Surgery.* By F. W. SARGENT, M. D. Philadelphia: Lea & Blanchard, 1848. pp. 379. Small 8vo.

THE object of the author in preparing this volume is to furnish the young surgeon and student with information relative to the art of bandaging, and the mode of performing some of the minor operations of surgery. The great importance of a familiarity with these subjects, is fully appreciated by every experienced surgeon, and yet they are but cursorily treated in the systematic courses of lectures, and the student can only become acquainted with them by long attendance on a hospital, or by reference to some work especially devoted to them. Dr. Sargent's small volume is exceedingly well suited for this purpose. It is comprehensive in

its plan, and the arrangement of subjects is judicious—the descriptions are clear and precise, and the wood-cut illustrations are numerous, amounting to 127, and most of them extremely well executed.

The work is divided into five parts. The first embraces a description of the implements with which the ordinary duties of the surgeon are accomplished.

“The second treats of the composition and preparation of Bandages, of their application to the different regions of the body, and of the purposes which they are thus made to subserve.

“The third is devoted to the consideration of the apparatus of various kinds, used in the treatment of fractures. In the arrangement of this portion of the volume, the author has thought it expedient to give pretty full details, showing the indications of treatment in each particular case of fracture, and thereby rendering more manifest the adaptation of each bandage, splint, or other dressing, to the fulfilment of these requirements.

“The fourth division describes the mechanical means employed in the treatment of dislocations, with the mode of applying them.

“In the fifth part are detailed at length the methods of performing such operations as seem strictly to be included in the term “Minor Surgery:” these are the operations for bleeding, general and local; the modes of effecting counter irritation;—the methods of arresting hemorrhage; the closure of wounds; the introduction of the catheter, and the administration of injections. A few remarks on the mode of relieving pain during operations, and a short appendix of useful formulæ, close the volume.”—p. viii.

We can unhesitatingly recommend this volume as one of the very best of its class, and as furnishing a vast amount of information which it is essential for the young surgeon to know, in order to perform his daily duties with advantage to his patient, and satisfaction and credit to himself.

ART. XXII.—*Elements of Natural Philosophy; being an Experimental Introduction to the Study of the Physical Sciences.* By GOLDING BIRD, A. M., M. D., F. R. S., F. L. S., Fellow of the Royal College of Physicians; late President of the Westminster Medical Society; Corresponding Member of the Philosophical Institute of Basle, of the Philosophical Society of St. Andrews, of the Medical Society of Ham-burgh, etc.: Assistant Physician to, and Professor of *Materia Medica* at Guy’s Hospital. With three hundred and seventy-two illustrations. From the revised and enlarged third London edition. Philadelphia: Lea and Blanchard, 1848, 12mo. pp 402.

THIS volume is chiefly intended as a text-book for the student, whilst attending lectures on physics, or as preparatory to his entering upon the study of larger or more elaborate works. Its compilation was suggested by the absence of any system of physics, sufficiently extended to include all those subjects with which men of education, especially members of a liberal and important profession like that of medicine, ought, and are required, to be familiar with; and at the same time, not too diffuse to disgust or weary the student.

It is wholly unnecessary to discuss the importance of a knowledge of physics to the medical student. It teaches him the laws which govern some of the most important functions of animal organism,—explains the manner in which certain fractures, dislocations and various other surgical accidents are produced, and affords important suggestions as to the best mode of treating them.

Dr. Bird’s well digested and concise volume fulfils the object for which it was designed, and diminishes the regret we have long felt that Mr. Arnott should have abandoned his design of completing his admirable treatise on the same subject.

Dr. B.’s work is divided into two sections. The first treats of the physics of imponderable matter, and embraces the following subjects:—Elementary laws and general statistics; general dynamics, simple machines; physics of liquids at rest; physics of aerial fluids at rest; general properties and laws of fluids in motion; sonorous vibrations of ponderable bodies.

Section second is devoted to the physics of imponderable matter, including the

subjects of—Magnetism; ordinary, atmospheric and voltaic electricity; electro-chemical decomposition; electro-dynamic induction; thermo-electricity; physiological electricity; light; optical apparatus and the eye considered as an optical instrument; heat, and photography.

From this table of contents it will be observed that the scope of the work is very comprehensive, and that especially no subject of interest to the medical student has been omitted.

ART. XXIII.—*Principles of the Mechanics of Machinery and Engineering.* By JULIUS WEISBACH, Professor of Mechanics and Applied-Mathematics in the Royal Mining Academy of Freiburg. First American edition. Edited by Walter R. Johnson, A. M., Civ. and Min. Eng., formerly Professor of Mechanics and Natural Philosophy &c. &c. In two vols., illustrated with one thousand engravings on wood. Philadelphia: Lea & Blanchard, 1848. 8vo. pp. 488.

Chemical Technology; or, Chemistry applied to the Arts and to Manufactures. By Dr. F. KNAPP, Professor at the University of Giessen. Translated and edited, with numerous notes and additions, by Dr. Edmund Ronalds, Lecturer on Chemistry at the Middlesex Hospital, and Dr. Thomas Richardson, of Newcastle-on-Tyne. First American edition, with notes and additions, by Professor Walter R. Johnson, of Philadelphia. Illustrated with two hundred and fourteen engravings on wood. Philadelphia: Lea and Blanchard, 1848. 8vo. pp. 504.

THOUGH not medical works, we may be allowed to call attention to these volumes, as they are devoted to the elucidation of subjects with which every man of education should be acquainted, and in the first named volume especially, the surgical student will find much information which he may turn to advantage in his practice.

These volumes are numerous and most beautifully illustrated, and are issued in a style creditable to the enterprise and liberality of the publishers.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *On the Channels by which Urea is eliminated after the extirpation of the Kidneys.* By MM. BERNARD and BARRESWIL.—When the kidneys are extirpated in animals, urea accumulates in the blood; but several days pass over before any appreciable quantity is present. The authors, supposing that during this period the urea must have some other channel of excretion, have analyzed the biliary and intestinal secretions at different periods after extirpation of the kidneys in animals. They find that, so long as the animal remains lively, the intestinal, and more especially the gastric, secretions are increased in quantity, and, instead of periodic, become continuous; acquiring at the same time a considerable impregnation of ammoniacal salts. The subsequent diminution of the intestinal secretions, and of their ammoniacal ingredients, is accompanied by the first presence of urea in the blood, and the first symptoms of its poisonous effects. As the salts of ammonia are not normally constituents of the intestinal secretions, it is clear that this is a vicarious elimination of nitrogenous effete matter; and that the urea is secreted in substance by the intestinal mucous membrane and afterwards transformed into ammonia, is rendered highly probable by the fact, that chemically these substances are interchangeable, and that urea, when introduced into the stomach of a living dog, is always replaced by ammoniacal salts.—*Monthly Journal and Retrospect of Medical Sciences*, April 1848, from *Archives Générales de Médecine*.

2. *On the Effects of the Introduction of Common Salt directly into the Stomach.* By M. BARDELEBEN, of Giessen.—On introducing, by a fistulous opening through the abdominal parietes, a small quantity (45 grs.) of domestic salt into the empty stomach of a dog, a series of phenomena was constantly observed, which does not take place when the same quantity is taken by the mouth. Every part of the membrane in contact with the dry salt secretes very rapidly a nearly colourless mucus, varying in quantity. The stomach is then thrown into brisk contraction; the animal is agitated and uneasy, and is seen to swallow large quantities of saliva. The respiration is accelerated, and in four or five minutes vomiting is produced. After the vomiting has ceased, the gastric juice is frequently, though not invariably, alkaline. This alkalinity of the gastric secretion is frequently met with in the empty state of the stomach, or even after the introduction of indigestible substances, such as sponge or pebbles; but during digestion the secretions of the stomach are always acid. The above described action of salt is peculiar to it; for pepper, which is regarded as a much more irritating substance, is very well borne, and increases the gastric secretions without provoking any of those contractions and vomitings described.—*Ibid*.

3. *Non-absorption of Narcotic Poisons*, (*Prov. Med. and Surg. Journ.*, May 1848).—It has been established by numerous experiments, that when the circulation through a part has been interrupted, a narcotic poison introduced does not exert

its specific action on the system. To account for this, three propositions have been advanced. 1st. That the poison is altered and rendered inert in the lymphatics. 2d. That it cannot enter them. 3d. That having entered, it cannot be conveyed by them. The first is opposed to facts; the second supposes a difference between the structure of veins and lymphatics, which has never yet been demonstrated. The third hypothesis was advanced by Henle, who conceives that, like other fluids, narcotic poisons are taken up by the lymphatics, according to the general laws of permeation and imbibition, but that the poisons, acting on the coats of these vessels, destroy their irritability, and incapacitate them from conveying their contents.

This hypothesis appears sufficiently plausible. The topical application of opium to the intestines destroys their peristaltic action. Aconite, infusion of tobacco, and other narcotic poisons, when absorbed from a wound, and carried by the circulation to the heart, paralyze this organ, and render it unable to contract on its contents. Finally, it can be shown that lymphatics, placed under the influence of a narcotic poison, are disabled from conveying into the system not only the poisonous agent, but also inert solutions, which, under normal conditions, they absorb with facility.

Mr. E. W. DAY, of Birmingham, with a view of solving this question, instituted the following experiments, in which he exposed to the absorbing power of the lymphatics in the normal condition, and under the influence of a poison, two salts, both known to be readily absorbed by these vessels, and both susceptible of ready recognition in the secretions:—

(*Exp. 1.*) The abdominal aorta of a middle-sized dog was tied below the origin of the renal arteries. Into a wound of the right hind extremity, near the foot, were now introduced ninety drops of a saturated solution of acetate of strychnia, followed by one hundred and twenty drops of a solution of iodide of potassium, (in the proportions of one drachm of iodide to one ounce of water.) In a similar wound of the opposite limb were introduced one hundred and twenty drops of a solution of ferrocyanide of potassium of the same proportions. After the lapse of two hours and a half, no symptoms of poisoning having appeared, sixty drops of the solution of strychnia were dropped into the wound in the abdomen. In ten minutes convulsions ensued, and the animal died tetanic. The bladder was removed, and the small quantity of urine contained in it received into a test tube. On the addition of a drop of solution of persulphate of iron, there at once appeared a bulky precipitate of Prussian blue, which presented a greenish hue, owing to the deep yellow colour of the urine. The fluid was filtered, the precipitate washed, and to the filtrate were added a few drops of chlorine water, followed by solution of starch. No change became apparent.

(*Exp. 2.*) The abdominal aorta of a dog was tied. To a wound of the right hind foot was applied a mixture of thirty drops of hydrocyanic acid, (containing about forty per cent. of anhydrous acid,) with one hundred and twenty drops of solution of ferrocyanide of potassium. Into the opposite limb were introduced one hundred and twenty drops of solution of sulpho-cyanide of potassium, (containing one drachm in one ounce of water.) No sign of the action of the poison having appeared in two hours and a quarter, the animal was killed by introducing into the wound of the abdomen ten drops of the acid. The bladder was removed and the urine received into a test tube containing a few drops of solution of persulphate of iron. It immediately assumed a blood-red tint, but underwent no further change. To the fluid was now added a little sulphuric acid, and after the subsidence of a slight effervescence which ensued, a slip of pure zinc was introduced. In the gas which was evolved, sulphuretted hydrogen could be distinctly recognized by the odour, and a slip of lead paper was blackened by it. The fluid had now lost its red colour.

(*Exp. 3.*) A third experiment was conducted in a similar manner. Into the right hind foot was introduced a mixture of one hundred and twenty drops of solution of sulphocyanide of potassium, with forty drops of prussic acid; into the opposite limb one hundred and twenty drops of solution of ferrocyanide of potassium. After the lapse of an hour and three-quarters, the animal having shown no indication of the action of the poison, was killed almost instantaneously by introducing into the wound of the abdomen a few drops of the prussic acid. The

urine was received into a tube containing solution of persulphate of iron. A distinct blue deposit left no doubt of the presence of ferrocyanide, whilst the unaltered colour of the supernatant fluid indicated the absence of the sulphocyanide.

From these experiments Mr. Day concludes: 1. That strychnia and prussic acid cannot be conveyed into the system by the lymphatics. 2. That the non-absorption of these poisons is due to a specific action exerted by them on the coats of the lymphatics, by which the irritability of these vessels is destroyed, and they are rendered incapable of transmitting their contents.

From the dissimilarity in the operation of strychnia and prussic acid, it may be reasonably inferred, that most other poisons belonging to the same class will, on investigation, be found to conduct themselves in the same manner towards lymphatic vessels.

4. *Lymphatics of the Lungs*.—Dr. JARJAVAY has given, in the *Archives Générales de Méd.*, (Jan. and Feb. 1847,) a very elaborate account of the lymphatic vessels of the lung; he arranges them, for convenient description, into plexuses, and vessels properly so called, and these are superficial and deep. The *superficial plexuses* are spread upon the lung beneath the pleura; they present varieties in the form of the meshes, which are lozenge-shaped, or round, or variously angular, in the size of the vessels, and in the moniliform character of some. These last are chiefly those in the fissures, and the swellings on them are sometimes of considerable size, whilst the alternating narrow part sometimes impedes, or wholly stops, the flow of mercury through the vessel; this character is named *varicose* by the author, and the simpler condition is distinguished as *capillary*. It is common to find the capillary vessels occupying chiefly the surface of the upper lobe, and a portion of the lower, but the varicose, without exception, in the fissures and on the median face of the lung, especially about its root. The lymphatic plexuses at the borders of the lung, consist of straighter vessels, and are, in fact, the secondary trunks, which in turn discharge themselves in two or three principal vessels; these are, for the lower lobe, two constant and a third occasional; they range the angles of the lung more or less parallel to it, and terminate in the bronchial lymphatic ganglions. The "*vessels*" of the upper and middle lobes are more numerous; they occasionally dip under the surface, because they are overlapped by a lobule, but they always reappear; they assemble to terminate in the bronchial ganglions. It is worthy of remark that the black matter so constant in the lungs, has its seat in the track of the vessels of the varicose plexuses, and thus the pattern of these is mapped out by that black substance. Occasionally, pale lines mark out sundry black spots, these indicate swellings of the lymphatics, and it has often occurred to the author to inject the vessels by plunging his pipe into one of these spots. The *deep plexuses* are said to be those of the mucous membrane of the bronchi, but the author has failed to perceive their primary union with trunks. The *deep vessels* run between the large trunks of the bronchi and those of the pulmonary artery. To the question of how the lymphatics of the lung come into connection with those of the heart, and finally with the thoracic duct, the author's injections have failed to afford a satisfactory answer; he finds, however, that, for the most part, ganglions seated about the roots of the lungs receive the vessels, although he has noticed branches go directly to the thoracic duct, and in other cases join the diaphragmatic, œsophageal, &c. &c. The ganglions about the left bronchus also receive the lymphatics of the heart, which reach them after following the curve of the aorta.—*Report on Anat. and Phys.*, in *Ranking's Abst.*, vol. vi.

ORGANIC CHEMISTRY.

5. *Oxalate of Lime a Constituent of the Simplest Cellular Plants and of the Secretion of the Mucous Membranes*. By Dr. C. SCHMIDT of Dorpat.—In yeast, which had been left to itself for three weeks, the author observed the formation of a crop of beautiful crystals of oxalate of lime. By a series of careful experiments, he ascertained that this salt existed ready formed in the yeast cells, and could be extracted from them when perfectly fresh; and he concludes, from various circum-

stances, that it must be dissolved in the fluid contents of the cell, as a compound of oxalic acid, albumen, and lime (*oxalsaures albuminkalk*).

As regards the elimination of oxalate of lime from the system, the author considers it impossible that, in the oxalic acid diathesis, it can be found in the stomach, experiment having shown that, when the oxalate of lime is swallowed, it is never found in the urine, the oxalic acid being oxidized in its passage through the system, and thrown off by the lungs and kidneys in the form of carbonic acid. He has never in any case found oxalate of lime, either in the saliva or gastric juice, but very frequently in the urinary sediments. Now, oxalate of lime is totally insoluble in fresh urine, and as, from the structure of the secreting portion of the kidney, it is impossible for the urine to carry with it any insoluble matter, he infers that the oxalate must have a different source from the urea and uric acid, &c., of that fluid; and he concludes that it is a secretion of the mucous membrane of the kidney, and even of the bladder itself, from which it is probably thrown off in the form of the soluble compound above mentioned, and precipitated in the insoluble form by contact with the urine. In proof of this position, he points out that morbid increase of the vesical mucus is always attended by an increase in the oxalate of lime. That this salt is also found in the bile, where it is held in solution by the biliary mucus, and is precipitated when that substance undergoes decomposition, but not till then, as the bile does not, like the urine, possess the property of bringing it into the insoluble state. And lastly, which is his strong proof, he has invariably found the oxalate of lime present in the mucous membrane of the uterus during pregnancy.—*Monthly Journal and Retrospect of Medical Sciences*, April, 1848, from *Annalen der Chemie und Pharmacie*.

6. *On the Variations in the Amount of the Phosphatic Salts in the Urine in Health and Disease.* By Dr. BENGE JONES.—“Mulder has shown, that in inflammation, one of the albuminoid constituents of the blood passes into a higher state of oxidation than that in which it usually exists. Oxides of protein, as he has called them, form the inflammatory crust. Indeed, the whole of the fibrin of the blood is changed into these substances. This alone would give us some reason for expecting, that in inflammations of particular organs, the constituents of these organs would be affected in a similar way. For example, that in inflammations of the brain, we should find the phosphorus of the phosphorized fats oxidized, forming phosphoric acid.

“Now, after a long-continued experiment, which I have been enabled to make on the appearance of phosphatic salts in the urine, the result of nearly a hundred cases of disease, and of many hundred quantitative analyses, has been, that acute affections of the nervous substance, organic and functional, are the only diseases in which an excess of phosphatic salts can be proved to exist in the urine. By phosphatic salts, I do not mean the earthy phosphates alone, but the alkaline phosphates as well as the earthy ones. I obtained and weighed not only the earthy phosphates, but the earthy and alkaline phosphates together—thus determining the total phosphatic salts present in the water. If it could be obtained, the water first passed in the morning was used for analysis; for I found it impossible to obtain, with any approach to accuracy, the whole quantity passed in the twenty-four hours. Had this been possible, it is probable that chronic diseases would have furnished me with positive results.

“It was necessary, before beginning my experiments on disease, to trace the variations and their causes in the state of health.

“1. I found that the earthy phosphates varied soon after food from 1.91 per 1000 parts of urine, specific gravity 1033.2, to .97 per 1000 urine, specific gravity 1027.3.

“Long after food, they varied from .75 per 1000 urine, specific gravity 1028.0, to .20 per 1000 urine, specific gravity 1028.2.

“The alkaline phosphates, long after food, and soon after exercise, vary from 8.10 per 1000 urine, specific gravity 1028.0, to 6.50 per 1000 urine, specific gravity 1022.8. Soon after food, the quantity varied from 6.67 per 1000 urine, specific gravity 1025.5, to 4.72 per 1000 urine, specific gravity 1033.2.

“Sulphate of magnesia, chloride of calcium, or lime water, taken into the stomach, increased the earthy phosphates at the expense of the alkaline phos-

phates. After sulphate of magnesia had been taken as medicine, the earthy phosphates were found to increase as high as 2.99 per 1000 urine, specific gravity 1027.6; and in a second case, up to 2.93 per 1000 urine, specific gravity 1026.2. The amount of alkaline phosphates was found by experiment to be chiefly influenced by the diet, and to a less extent by exercise.—*Philosophical Transactions*, 1845. I then passed on to the amount of phosphates in disease. I found the variations in the earthy phosphates to be almost independent of the nature of the disease.

"2. In fractures of the spinal column, and in paraplegia, the total amount of the phosphatic salts was slightly above the healthy standard at the early period. When chronic, the total quantity of phosphatic salts was lower than natural.

"3. In some acute diseases, as acute inflammations and fevers, showed no increase.

"4. In some chronic diseases, as Bright's disease, dropsies, scrofulous diseases, exostosis, there was no increase. One case of mollities ossium presented a marked exception.

"5. In chronic diseases of the brain, and in chronic or even acute diseases of the membranes, there was no increase of phosphates.

"6. In fractures of the bones of the skull, when any inflammation of the brain supervened, there was an increase in the total amount of phosphatic salts. When there were no head symptoms, no increase of phosphates was observed, even though other acute inflammations supervened.

"7. In the general paralysis of the insane, no increase of phosphates was observed. Other insane patients presented nothing very remarkable.

"8. In acute inflammations of the brain, there was an excessive amount of phosphates secreted. When the acute inflammation became chronic, no excess was observable.

"9. In some functional diseases of the brain, an excessive amount of phosphates was secreted; this ceased with the delirium. In other cases of delirium, the phosphates were found to be greatly diminished."—*Lancet*, July 29, 1847.

7. *Urea in Normal Sweat*.—Dr. LANDERER has obtained a considerable quantity of urea from the flannel shirts of several persons who had been perspiring freely. In addition to urea, he has also obtained chloride of sodium, traces of sulphates, acetates and lactates, osmazome, and a substance soluble in ether.—*Hellers' Archives*, vol. iv.

MATERIA MEDICA AND PHARMACY.

8. *Proteine as a Medical Agent*.—E. W. TUSSON states (*Medical Times*, April 22, 1848,) that he has prescribed proteine extensively with very beneficial results as a medical agent, and one calculated to produce a favourable termination in most cases of caries; also in some cases of scrofula, extensive ulcers, debility, diseases of the gums and teeth, rickets, undue lactation, and insufficient secretion of milk. In infancy, where debility exists, and where the functions are not duly carried on, and in some affections of the spine, five grains once or twice daily, will be sufficient for a child, and ten or twelve grains for an adult. He orders it to be taken as a powder, dry, or upon bread and butter.

9. *Aqueous Solution of Opium, acidulated with Muriatic Acid*.—Dr. J. G. NICHOL gives the following formula for this preparation of opium, which he says he has used for the last ten or twelve years, and extols as the best anodyne he has ever used.

Take of the best powdered opium $\mathfrak{zj}$; muriatic acid $\mathfrak{zj}$; distilled water $\mathfrak{z}xix$. Mix. Shake the mixture frequently every day during fourteen days, then strain and filter. The dose is from twenty to forty drops, according to circumstances.—*Med. Times*, April 15.

10. *Iodized Oil*.—This preparation has superseded the other forms of iodine at

the Val-de-Grace. M. MARCHAL (de Calvi), reasoning from the fact of the virtues of cod-liver oil being due to the small portion of iodine it contains, concluded that a far more useful preparation of this substance than the iodide of potassium is found to be, might be made by combining it with an organic body. In this way a more complete assimilation of the substance, or, at all events, its longer retention in the economy, might be secured. He chose an oily body, because this, forming an emulsion with the bile, would allow of the substance being digested in the small intestine, and enable the stomach to become relieved of its presence. In this way, far larger doses can be administered, if requisite, without irritating the latter organ; while the iodine is eliminated by the urine much more slowly and in far less quantities than is the case with the iodide. The trials which have been made are very satisfactory in their results, the progress of the cure of buboes and other glandular enlargements being much expedited. The iodine is dissolved in fresh almond oil as wanted, in the proportion of 1 part to 15; and this is afterwards worked up into an almond emulsion. The minimum dose is one grain.—*British and Foreign Medico-Chirurg. Review*, April 1848, from *Gazette des Hopitaux*, No. 13, 1848.

11. *Tartrate of Potassa and Iron*. By M. MIALHE.—Although this compound, long known to chemists, has been but recently much employed in medicine, it possesses properties superior to most other martial preparations. Although it contains above 30 per cent. of the peroxide of iron, its ferruginous flavour is so slight, that it may be tolerated by stomachs which reject all other preparations of iron. It is very soluble, and as alkalies do not decompose the solution, it is as capable of absorption amid the alkaline juices of the intestine as in presence of the gastric acid. Moreover, it causes no constipation. It can, therefore, be well employed in all the pathological conditions demanding the use of iron, and especially such as require it in large doses, as the syphilitic cachexia. In a case related it changed, after long use, the colour of the hair from fair to dark, “a point well worthy the attention of physiologists and physicians, for it proves that, on the administration of iron, it is solely by the hairs that the excess of this metal is excreted, as M. Dumas had already supposed; for certainly to sulphuret of iron was the colour due in this case.” The drug has been said to give rise to diarrhoea, but this it does only when adulterated, which it very often is. Nothing, however, can be easier than for practitioners to prepare it for themselves, since for this it suffices to act upon an excess of peroxide of iron by cream of tartar, dissolved in six or seven times its weight of water, in the bath used for the preparation of extracts. As soon as the saturation is completed, which it is recognized to be by the deep red colour and the sweetish flavour acquired by the liquor, it is to be filtered and evaporated. The salt may be given in the form of pills prepared with mucilage, or, better still, with *oily mucilage*, which is composed of 200 parts of gum Arabic, 100 of sugar, 100 of almond oil, and 250 of water, and by means of which the pills may be very rapidly prepared. From two to eight five-grain pills, or more, may be taken daily. Children will very readily take a syrup formed of simple syrup 500 parts, the tartrate and canella water, of each 16 parts.—*Ibid.*, from *L'Union Médicale*, No. 2, 1848.

12. *External Employment of Belladonna*.—Mr. DONOVAN recommends (*Dublin Medical Press*, May 31, 1848) the substitution of atropa for extract of belladonna in liniments, as making a more cleanly and elegant preparation, and one of more certain strength. Atropa is very soluble in alcohol, although it requires five hundred times its weight of water for solution. The common belladonna liniment can therefore be prepared by dissolving two grains of atropa in four ounces of compound camphor liniment; the solution takes place instantly, and an elegant compound results.

If an oily liniment is required, two grains of atropa may be dissolved in half an ounce of alcohol; the solution has the property of dissolving castor oil, and forming a permanent solution; two ounces of it are to be added, and the mixture to be well shaken.

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

13. *Treatment of Phthisis Pulmonalis by Cod Liver Oil.* By DR. HUGHES BENNETT.—The effect of the oil in many cases of phthisis is very striking, and is well seen in hospital and dispensary practice. Individuals presenting emaciation, profuse sweats, constant cough and expectoration, as most prominent symptoms, with a degree of weakness that prevents their standing alone, after a few weeks' use of it are enabled to get up with ease and walk about, with a visible improvement in their general health, and an increased amount of flesh. The physical signs of the disease may continue unaffected for some time; but if the treatment be continued, the moist gurgling râles are exchanged for dry blowing sounds, which become more and more persistent, pectoriloquy is merged into bronchophony, the respiration is easier, and a check is evidently given to the ulcerative process, and the formation of purulent matter in the air-passages. In this state, patients often feel themselves so well that they insist on leaving the hospital, or give up their attendance on the dispensary. Dr. Bennett has frequently found it impossible to prevail on such persons to continue the treatment, and the consequence is, that, again returning to their often unhealthy employment and bad diet, and exposed to the other causes favourable to the production of the disease, the distressing symptoms again recur. Several cases, with one or more caverns in the lungs, have in this manner returned to the Infirmary from four to seven or eight times during the last six years, and on each occasion have gone out in their own opinion perfectly cured.

Notwithstanding the difficulties which have presented themselves in bringing about a complete cure of the disease, Dr. Bennett has succeeded, in several cases, in ascertaining that caverns have completely healed up, every symptom and physical sign indicating their presence having disappeared, and only slight dullness on percussion, and increased vocal resonance remaining as a proof of the puckering and induration of the pulmonary parenchyma attendant on the cicatrix. He gives two unequivocal cases where this occurred, and alludes to others which he purposes publishing at some future time.

Most cases of phthisis pulmonalis, especially in the advanced stage, are affected with more or less dyspepsia, which renders the stomach irritable, causes total loss of appetite, and is often the cause that prevents nourishment from being taken. In many instances there is no difficulty in employing the oil under these circumstances, but in others it cannot be retained on the stomach. It will then be necessary to calm the irritability of the organ, and the best remedy for this purpose, according to Dr. B.'s experience, is naphtha. It is to the power this substance possesses of checking vomiting, and thereby allowing nourishment to be retained, that he attributes the advantages which have attended its use in the practice of Dr. J. Hastings, and others. The diet should always be nutritive, without being stimulating; and counter-irritation to the chest is an excellent auxiliary. This treatment should be perseveringly persisted in; whilst, to prevent fresh exudations of tubercular matter, an equable temperature is of the highest importance. To equable temperature must be ascribed the advantages of favoured localities for phthisis, and with proper precautions it can be very well maintained in this climate.—*Monthly Journal and Retrospect*, May 1848, from *Bennett on Cod Liver Oil*. Edinburgh, 1848.

14. *Case of very extensive Gelatiniform Cancer of the Peritoneum, involving the Lymphatic Glands of the Abdomen and Ovaries, and stimulating Ascites.* By EDWARD BALLARD, M. D.—A married woman, aged 55 years, became a patient under Dr. Ballard's care, at the St. Pancras Dispensary, on January 17th last. She stated that for twenty-seven years she had been subject to more or less epigastric pain. Between the ages of forty-five and fifty-two years she had suffered from an almost constant and very debilitating menorrhagia. At that time, also, there was an increase in the epigastric pain—which was occasionally relieved by an aperient—with the evacuation of mucus and membranous shreds, and a tumour was discovered beneath the margin of the ribs on the right side. In June, 1846, she

slipped from some steps; a prolapsus of the wound followed, and she wore a pessary for three months. At this time the uterus ceased to prolapse, but she noticed the abdomen begin to enlarge, first at its lowest part; and she perceived a tumour in the hypogastrium, which, with that before detected, disappeared as the abdomen generally increased in size. About Michaelmas, in the same year, she struck her abdomen violently against a post, since which accident all her symptoms had been aggravated, the enlargement continuing to increase. She began to vomit a few months previously to her admission at the dispensary. On being visited, she presented the appearance of a person labouring under some severe organic disease, and was considerably emaciated. The abdomen was greatly enlarged, dull on percussion generally, and fluctuating most distinctly; it encroached very much upon the limits of the thoracic cavity. The umbilicus was remarkable in being stretched and flattened out, and not prominent, as is customary in ascites. The case was believed to be one of ascites, arising from cancerous disease about the larger divisions of the portal vein, and under part of the liver; fibrous tumour of the uterus was detected, and encysted ovarian disease believed to be likewise present. She was tapped on the 24th, but only a teaspoonful of clear jelly passed from the trocar, and she died on the 26th. On examination of the body, the peritoneal cavity was discovered to be full of a firm and very tenacious gelatinous matter, emitting a very sickly odour. A large ruptured ovarian cyst, containing a similar matter, occupied the lower part of the abdomen; and there were several smaller cysts about the inlet of the pelvis. The whole peritoneal surface of the abdominal wall and diaphragm was infiltrated with colloid cancer, as also was a considerable part of the peritoneal coat of the liver and spleen. There was a large tumour lying upon the right side, which was formed by the omentum and mesocolic glands converted into colloid; and the mesenteric glands, with those about the under surface of the liver, were similarly affected. This diseased mass was connected below with a fibrous tumour of the uterus. All the gelatinous products, wherever found, presented the characteristic cells of cancer. (All these appearances were illustrated by preparations and drawings.) In commenting upon the case, the author introduced his remarks by observing that, although colloid cancer of the peritoneum was not of very unfrequent occurrence, he had failed in his search after a case at all approaching it as regards extent, and had been unable to discover another recorded instance in which colloid matter had been found free within the cavity of the abdomen. He believed that the disease had commenced in the mesocolic glands, from which it had spread upwards over the liver and spleen to the abdominal wall, and downwards to the omentum and ovaria; and that the general effusion of colloid into the peritoneal cavity had taken place subsequently to the rupture of the ovarian cyst from the blow the patient had received upon the abdomen. These opinions were supported by considerations deduced from the appearances after death, and from the clinical history of the case. Admitting the insufficiency of the grounds on which M. Cruveilhier maintained the malignant nature of all encysted ovarian disease, the author nevertheless suggested that the opposite view of their nature would be found no less fallacious, holding that some forms at least deserved to be classed amongst cancerous growths, and alluding to the discovery of cancer cells in his own case, and in one which is reported as having occurred in the practice of Mr. F. Bird. He regarded the present case as establishing the possible existence of three forms of colloid cancer:—1st, the ordinary locular form; 2d, the encysted (so named by Cruveilhier); and 3d, a free or uninclosed form. He stated his belief that, in this instance, the plasma in which the free colloid was formed was only thrown out from such parts of the peritoneal surface as were in a state of disease. The paper concluded by calling the attention of the Society to two of the signs presented on physical examination of the abdomen; one was the perfection of the fluctuation, and the other was the unusual condition of the umbilicus, which the author suggested might assist in the formation of a more accurate diagnosis, should a similar case ever again occur.—*Proc. R. Med.-Chirurg. Soc. in Lond. Med. Gazette*, March 1847.

15. *Pathological Nature of Bright's Disease.*—Dr. W. T. GAIRDNER, in a paper read before the Medico-Chirurgical Society of Edinburgh, April 19th, maintained that the symptoms usually considered as indicating Bright's disease, are not found

in connection with one pathological lesion exclusively, but may be the result of several disorganizing processes. The author described the pathological lesions of the kidney as being essentially the same as those of other organs, the differences being the result of the anatomical disposition of the gland. The deposition of fatty granules might occur in connection either with acute or chronic forms of disease. Instances of its acute deposition are to be found in pneumonia, and other parenchymatous inflammations, where the so called exudation corpuscles have exactly the same mode of origin from the epithelium of the lung, as the fatty cells in the parenchyma of the kidney. Neither could the granular or fatty exudation be considered as the proximate cause of albuminuria or dropsy; as it might occur to a considerable extent without either of these consequences. Albuminuria was generally connected with imperfect formation of the secreting cells, and very frequently with desquamation, as described by Dr. Johnson, Mr. Simon, and others. Dr. Gairdner pointed out the analogy of this morbid process with the ordinary phenomena of mucous inflammations, as described by Henle. This he was disposed to consider as the initiatory process of Bright's disease; it might be succeeded by exudation, or by other pathological lesions, according to circumstances. The granulated kidney, the non-granulated (fatty) kidney, and a peculiar waxy degeneration, corresponding with the "marbled" kidney of Rayer, were described by the author as frequent in connection with Bright's disease. The result of most of these forms of disease was atrophy and contraction, which occurred by the absorption of the exudation, and collapse and obliteration of the tubes.

Dr. Hughes Bennett stated, that he had on several occasions examined the demonstrations of Dr. Gairdner, and could vouch for the accuracy of the facts he had described. Some of those, more especially such as were explanatory of the changes occurring in the tubes after the evacuation of their fatty contents, were new, and constituted a valuable contribution to our knowledge of the morbid anatomy and pathology of renal disease. The observations of Dr. Gairdner, as well as those of several German pathologists, and of Dr. Johnson of London, as regards fatty degeneration of the organ, were illustrative of a series of changes which occurred in numerous glands, and exhibited the great importance of paying attention to accumulation of the fatty element as a cause of disease. There could be little doubt that exudation into the tubes was one of the primary changes in the kidney, whereby, as the author had explained, secondary effects were produced on the Malpighian bodies and the capillaries. It was in recent cases, more especially such as occurred during or subsequent to scarlatina, that fibrinous moulds of the tubes were most frequently found in the urine, which could only be regarded as the natural excretion of the morbid product. They were analogous to the fibrinous moulds of the bronchi, expectorated in pneumonia. Dr. Bennett considered that the good effects of diuretics in certain cases of kidney disease, might be explained by the increased secretion of fluid favouring the expulsion of these moulds. In other cases, again (which further observations could only more particularly indicate), diaphoretics were of great service, owing apparently to the well-known sympathetic connection existing between the skin and all mucous membranes, but especially those of the kidney.

Professor Simpson stated, that he was much interested in this subject from the frequency of albuminuria in pregnant cases. Disease of the kidney led to the absorption of urea, and a train of nervous symptoms of the utmost importance. He related several interesting cases of these, and especially one in which the urine remained albuminous for four months, and, after everything had failed, was cured by diaphoretics. The discovery of the fatty nature of the disease was very important, and its frequent occurrence in cases of pregnancy might be explained by the circumstance, that milk was often secreted and circulated in the blood long before parturition.

Dr. Paterson asked, whether the albumen found in the urine was secreted in the tubes, or was poured out from the blood, and how the hematuria, which was so common a symptom in Bright's disease, was occasioned?

Dr. Gairdner said, in reference to the remark of Dr. Bennett, that he had thought it right to be very cautious in drawing therapeutical inferences from a pathology which was still in its infancy. It had been attempted by some writers on this subject, to deter the profession from the use of diuretics in the desquamative forms.

of the lesion; whereas these remedies were undoubtedly found useful in some cases, in which he believed their action was precisely similar to that of expectorants in catarrh and bronchitis. He had seen comparatively few cases of the temporary albuminuria described by Dr. Simpson, owing to his observations having been made in hospital practice. He considered the albuminuria undoubtedly a morbid secretion, and thought that the hematuria was generally seen where there was little of the fatty exudation.—*Monthly Journal and Retrospect of Medical Sciences*, May, 1848.

16. *On Certain Pathological Conditions of the Blood and Urine in Gout, Rheumatism, and Bright's Disease.* By ALFRED B. GARROD, M.D. The object of the author's researches is to prove that—

1st. In gout the blood always contains uric acid, and that this body can be crystallized from that fluid in the form of urate of soda.

2d. That the uric acid is diminished or absent in the urine immediately preceding the gouty paroxysm.

3d. That in patients subject to chronic gout with tophaceous deposits, the uric acid is always present in the blood, and deficient in the urine, both absolutely and relatively to the other organic matters, and that the chalk-like deposits appear to depend on an action in and around the joints, &c., vicarious to the "uric acid secreting function" of the kidneys.

4th. That the blood in gout sometimes yields a small amount of urea (no albumen being present in the urine).

Quantitative analyses and observations in favour of these conclusions were then detailed, and also the method used for separating the uric acid and urate of soda from the blood. Dr. Garrod thought it probable that the presence of a small amount of urea in gouty blood might be the cause of one of the symptoms which distinguished gouty from rheumatic inflammation—viz., the slightly œdematous condition of the inflamed part.

The author next spoke of some experiments made on the blood of the sheep, and of birds. Sheep's blood was not found to contain uric acid, and even from the blood of the pigeon, whose urine consists entirely of that substance, none could be obtained. Human blood, from patients in tolerable health, was always found to yield a trace of uric acid, but a quantity exceedingly minute compared with the amount in gouty blood.

The next researches were made on patients suffering from acute rheumatism, and it was found that rheumatic blood contains no more uric acid than the healthy fluid, and no urea can be extracted from it. Analysis made on the blood and urine in Bright's disease appeared to show that in albuminuria, 1, the blood always contains uric acid, but that the amount of this substance is subject to great variation; 2, that urea exists in large quantities in the blood, (which has been proved long since,) and that there appears to be no relation between the amount of the urea and uric acid; 3, that the kidneys are always deficient in their power of throwing off urea, but that, with regard to the uric acid, their excreting function is sometimes much injured, at other times little affected.

In conclusion, the author thought that the results detailed in the communication led to the inference, that uric acid is not a product of the action of the kidneys, (as has been often supposed,) but that it is merely excreted from the system by these organs; also that the excreting function of the kidneys, for the solid portion of the urine, is not simple, but that the urea and uric acid are separately eliminated, and that one of these functions may be impaired or destroyed, the other remaining entire; it appears, also, probable that, as in albuminuria, the "urea excreting function being chiefly impaired, we find a vicarious discharge of this body in the dropsical effusions;" so in gout the "uric acid excreting function" being defective, the tophaceous deposits are produced by a similar vicarious discharge of urate of soda. Gout would thus appear to depend on a loss of power, temporary or permanent, of the "uric acid excreting function" of the kidney; the premonitory symptoms, and those also which constitute the paroxysm, arising from an excess of the acid in the blood, and the effort to expel this "materies morbi" from the system; an undue formation of this compound favouring the occurrence of the disease; hence the connection between gout and uric acid cal-

culous disease, and the influence of high living, want of exercise, &c., in inducing it. Thus also the hereditary nature of gout, and its frequent occurrence in low states of the system can be explained—facts which are generally regarded as militating against the humoral pathology of the affection. The above researches appear also to remove acute rheumatism from gout, and to render it probable that they are only analogous in affecting similar structures.

Dr. Ure stated that Berthollet had found the uric acid to become diminished in the urine previous to a gouty paroxysm: that some French chemist had found a considerable amount of phosphate of lime in some tophaceous deposits; and that he had noticed their crystalline composition.

Dr. Williams expressed his gratification at the highly interesting and satisfactory results of Dr. Garrod's researches, which were the more important as establishing, on the basis of chemical demonstration, the true nature of gouty disease. It had long been a matter of high probability, that the ancient notion, that gout depends on a morbid matter in the blood, was correct; and many recent observations on the causes, symptoms, and sequels of the disease, had led to the legitimate inference, that this matter is lithic acid. This he (Dr. Williams) had learnt and taught for many years past. But the demonstrative proof,—the detection of this acid in the blood,—although often sought, had never been accomplished, and to Dr. Garrod was due the entire credit of having first achieved that desideratum. The deficiency of lithic acid in the urine in the commencement of a fit of the gout, in common with other febrile movements, had been noticed by Berzelius; and its abundant reappearance on the decline of the paroxysm had been a matter of common remark among practitioners. But Dr. Garrod's observation, that even when present in the blood, lithic acid is secreted in proportions varying from those of the other constituents of urine, was a fact interesting in a physiological as well as in a pathological point of view; although he (Dr. Williams) doubted that the explanation was such as the author suggested. He (Dr. Williams) thought that it would be taking too narrow a view of the origin of gout, to refer it to defective excretion only. Many facts had occurred to him which induced him to ascribe it also to imperfect assimilation, particularly of various proteinaceous nutriments of a low kind, (such as cheese, salted meat, and pastry,) which weak assimilative powers are unable to convert into blood, and which therefore decay into lower proximate elements. This corresponds with the experiments of Magendie, on the influence of azotized food in augmenting the animal matter in the urine; and Dr. Williams stated that he had in his own person experienced a proof in point, in finding some gouty symptoms invariably ensue after eating cheese for several days. On one other subject, Dr. Williams could not quite agree with the author,—that there is no pathological resemblance between gout and rheumatism. Practitioners generally acknowledge, that although in well-defined cases they are quite distinct, yet in others they appear to graduate into each other; and both in the copious deposits of lithic acids and its compounds, on the decline of acute rheumatism, and in the unquestionable power of colchicum and alkalies in the cure of the disease, he (Dr. Williams) found a resemblance to gout, not to be effaced by the failure to detect an augmented quantity of lithic acid in the blood. In many cases of acute rheumatism, the state of the urine plainly showed that lithic acid was excreted in abundance, and a continuance of Dr. Garrod's researches would probably discover in the blood in this disease, if not lithic acid, something akin to it, and ready to be converted into it.

Dr. G. O. Rees had observed lithic acid to be absent in the urine in some cases of Bright's disease, which fact accorded with Dr. Garrod's detection of it in the blood. The circumstance of Dr. Williams having found solid urinary secretion in the cortical part of the kidney, in no way affected Mr. Bowman's theory, that such solids were secreted in the tubular structure. Mr. Bowman, when speaking of tubular structure, meant the minute tubular arrangement for secretion which existed in the cortical part of the kidney, just where Dr. Williams said he had found the solid deposits of urine. These minute tubes were lined with epithelium, and were the continuations of the tubuli uriniferi as they approached the Malpighian bodies, and formed a considerable proportion of that part of the kidney called the cortical portion, as distinguished from the tubular, in rough anatomy. He (Dr.

Rees) wished to ask Dr. Garrod in what cases of Bright's disease he had found the uric acid in the greatest amount.

Dr. Garrod, in answer to the question of Dr. Rees, as to the cases of Bright's disease, or albuminuria, in which the largest quantity of uric acid had been found in the blood, could state, that as far as his experience went, it appeared that the amount was greatest in cases of the acute disease, as those which arise after scarlatina or exposure to intense cold, the kidneys being in a state of congestion. He had also found it in large quantity in the last stages of the chronic affection, where the kidneys had almost lost their power of excreting at all. In the early stage of the last disease, he had often found that the "uric acid excreting" function of the kidney was but little impaired. With regard to Dr. Williams' observations as to the relation existing between gout and rheumatism, he wished it to be understood that his analyses had been made on cases of the acute disease, as he considered that if any "materies morbi;" existed in the blood, it would be found in greatest abundance in such cases, and in these he had failed in detecting any such excess of uric acid. Hence, if the presence of uric acid in excess in the blood constituted its pathological condition in gout, then it would appear that the relation between the two diseases was not so close as had been considered by many. Dr. Garrod did not at all deny the existence of a "materies morbi;" he only stated that it could not be uric acid. He also wished it to be understood, that he did not consider the gouty paroxysm as depending altogether on the deficient excreting power of the kidney, for no doubt the increased formation of the morbid matter favoured greatly the disease; perhaps, also, other matters generated in the stomach might, for a time, impede the excreting power of the kidney for uric acid; and hence the influence of sour beer, certain wines, and articles of diet. as cheese, &c., in inducing an attack.—*Proceed. of R. Med. Chirurg. Soc., in Lond. Med. Gaz., Feb. 1848.*

17. *On Albuminuria independent of Renal Disease.* By Dr. FINGER of Prague.—Among about 600 medical cases of various kinds in the general hospital at Prague, the urine was found to contain albumen in 155. Among these were—

Tuberculosis, ...	186 cases.	Albuminuria in	46
Typhus, ...	88 "		29
Puerperal Fever, ...	46 "		32
Carcinoma, ...	14 "		6
Chlorosis, ...	6 "		2
Acute Rheumatism, ...	18 "		0
Ague, ...	10 "		1
Pneumonia, ...	33 "		15
Pleurisy, ...	14 "		2
Peritonitis, ...	6 "		2
Chronic Catarrh, ...	16 "		3
Diarrhœa, ...	65 "		8
Disease of Heart, ...	18 "		7
Epilepsy, ...	2 "		2

The remaining cases were 3 of chorea, 6 of paralysis, 2 of tetanus, and 3 of hysteria; in these no albumen was found.

Of the 46 cases of tuberculosis with albuminous urine, 35 died; in 19 of these there had been œdema of the lower extremities, leading to a suspicion of granular disease of the kidney, which was nevertheless found to exist in 2 cases only.

Of the 29 cases of typhus, 17 died; disease of the intestinal glands was present in all, combined in 2 cases with pneumonia; the kidneys were sound in all the cases. The albumen appeared in the urine generally from the 16th to the 25th day, while the disease was on the increase or at the height; in those which recovered, it uniformly declined and disappeared during the convalescence.

The large proportion of cases in which puerperal fever was accompanied by albuminous urine, is explained by the admixture of the urinary and lochial discharges; in 6 cases, however, which were fatal from peritonitis, and in which the kidneys were sound, the albumen continued to present itself in the urine after the disappearance of the lochia.

In 4 of the 6 cases of cancer, the albumen was evidently from the admixture of uterine discharges. The kidneys were sound in all.

In 9 of the cases of pneumonia, the albumen disappeared from the urine during convalescence. In 6, which died, the kidneys appeared sound.

Dr. Finger is disposed to conclude that, in cases like the greater part of the above, where albumen appears in the urine along with a fibrinous or purulent exudation into some organ of the body, it is in consequence of these exudations being re-absorbed into the blood, and evacuated as effete matter by the kidneys. In support of this view, he gives three cases where albumen appeared in the urine simultaneously with the formation of abscesses in different parts of the body; and in two of which it was observed to disappear rapidly on the abscess being opened and the pus evacuated.

Dr. Finger speaks strongly of the necessity of caution in the diagnosis of diseased kidneys from the presence of albuminous urine, where the evidence derived from the history of the patient is from any cause not conclusive. He narrates two very interesting cases of patients admitted to the hospital, with all the usual symptoms of cerebral disorder from retained urea, in whom there was also a large quantity of albumen in the urine; and which, nevertheless, after death presented no appearance of granular kidney. In one there was slight puerperal peritonitis, and inflammation of the brain and its membranes, with two abscesses in the right hemisphere; in the other there were inflammation and purulent deposition in the urinary passages, with obstruction of one ureter and impediment to the function of the corresponding kidney, which was very much distended. In both these cases the diagnosis of Bright's disease, which was the one arrived at, was unavoidable, from the absence of any history of the patients' illness, and the state of insensibility on admission.

In the two cases of epilepsy in which albuminuria was discovered, the albumen presented itself only after a convulsion, diminishing, and gradually disappearing, after the lapse of thirty-six hours. This observation is important in connection with the cases recorded by Lever and others, of the concurrence of albuminuria with puerperal convulsions.—*Präger Vierteljahrschrift*, 1847, No. IV.

[We consider Dr. Finger's observations as an important contribution to the pathology of albuminuria; at the same time, we cannot view his results as by any means clearly or definitely established. We are sure that no modern pathologist who has given any attention to the minute examination of the kidney, would be content to assume the soundness of that organ from the absence of the ordinary appearances of granular disease. Moreover, if Dr. Finger's explanation of the albuminuria occurring during acute diseases be correct, how comes it that the albumen is present in the urine during the *inflammation*, when the fibrinous exudation is at the same moment thrown out elsewhere; and absent during the *resolution*, at the very time when that exudation is re-absorbed into the current of the circulation. Further, we know, from the observations of Schönlein and others, that the effete fibrine of inflammatory exudation is generally converted, in passing off by the kidneys, into lithate of ammonia, which is deposited as a sediment soluble by heat; and, if this be established as the usual process, surely the secretion of unaltered albuminous matter by the kidneys, must be the result of some disturbance of their function. On the whole, we think it most probable, from the evidence before us, that the secretion of albumen by the kidneys, is generally the result either of functional alteration or of organic disease of the organ itself; and the researches of Dr. Finger are valuable and important, as tending to show the circumstances under which this must readily occur as a temporary exudation, thereby presenting hints for present use in a diagnostic, and for future inquiry in a pathological, point of view.]—*Monthly Journ. and Retrospect*, April 1848.

18. *On Ozone as a Cause of Disease.* By Prof. SCHÖNBEIN.—The experiments made by Prof. Schönbein some years since, tended to show, that when a current of ordinary electricity passes from pointed bodies into the air, a substance is produced similar to that which becomes apparent, together with oxygen, at the positive electrode on the decomposition of water by a voltaic pile, or by the action of phosphorus on moist air. To this substance the term *ozone* has been applied, as expressive of its powerful odour. The subsequent experiments of the same dis-

tinguished chemist have further shown, that this remarkable substance is not only an eminently oxidizing agent, but that when inhaled, even if blended with a large quantity of air, it produces effects similar to those occasioned by chlorine and bromine; irritating the mucous membrane of the respiratory canals, and inducing acute catarrhal affections. As electricity is continually being evolved in the atmosphere, ozone must likewise be constantly produced in quantities which are probably proportionate to the intensity of the electrical discharges. As ozone at an ordinary temperature decomposes iodide of potassium by the separation of the iodine, it is evident that this iodide may, when mixed with a solution of starch, be used (if free from iodate of potash), for the purpose of detecting the presence of an infinitely small quantity of ozone in the atmosphere; since neither ordinary oxygen, nitrogen, nor a mixture of atmospheric air and carbonic acid, produces the same effect on iodide of potassium. This iodide paste will of course be coloured blue, with an intensity proportionate to the quantity of ozone present in the atmosphere. Professor Schönbein has found that the period in which the iodide paste turns blue in the open air varies extremely at different times; being occasionally coloured more intensely in a few hours, than at another period in the course of several days. On an average, this blue coloration is effected most rapidly in the colder seasons of the year; there are some days, however, during summer, in which the paste is very rapidly coloured, and this is especially the case in thunderstorms. Experience has shown that ozone is more rapidly produced by ordinary and voltaic electricity in proportion to the low degree of the temperature. It is a well-known fact, that in winter catarrhal affections of the mucous membrane of the respiratory organs frequently occur with such prevalence as to assume the character of an epidemic. Now if it were shown, that at certain periods, characterized by a general prevalence of catarrhal affections, large quantities of chlorine or bromine were present in the atmosphere, no one would hesitate to ascribe the cause of these diseases to the above substances. But it is an established fact, that by the inhalation of proportionally small quantities of ozone, physiological effects are produced similar to those which are occasioned by the inhalation of air charged with chlorine or bromine. This led Schönbein many years ago to conjecture that many catarrhal affections might be owing to the presence of ozone in the atmosphere. In the course of last winter, several catarrhal epidemics occurred in Basle, so that very few persons escaped; and Schönbein and many physicians of that town, instituted a series of daily observations, with the view of ascertaining how far the rapidity and intensity of the blue coloration of the iodide paste were connected with the prevalence and intensity of the catarrhal symptoms: the results were conclusive as to the simultaneity of the maximum of the coloration with extremest intensity of the epidemic. Further and more exact observations are, however, necessary for the establishment of this fact; and as an investigation of this nature may be so easily effected, we would call attention to the subject, which would be much elucidated by thermometrical and barometrical experiments (A simple method of making the observation, is by mixing pulverized iodide of potassium with a solution of starch, and exposing to the open air a strip of paper that has been rubbed over with the mixture.) As ozone is immediately decomposed by sulphuretted hydrogen and sulphurous acid, it would not be wholly devoid of interest to determine, whether persons living in the neighbourhood of sulphur-springs, or workmen engaged in metallurgic operations in which sulphurous acid is liberated, are less liable to catarrhal affections than those living in a purer atmosphere. In conclusion, we would remark that two hypotheses prevail with reference to the nature of ozone. According to Delarive and Berzelius, ozone is an allotropic modification of oxygen, occasioned either by electricity or by the catalytic activity of certain substances, (as for instance phosphorus;) whilst Prof. Schönbein regards it as a higher stage of the oxidation of hydrogen, the combination of which is effected either by an electric or a catalytic influence.—*British and Foreign Medico-Chirurg. Review*, April 1848, from *Henle u. Pfeuffer's Zeitschrift für rationelle Medizin*, Bd. vi. Heft 2.

19. *Therapeutic Action of Cod Liver Oil.* By Dr. HUGHES BENNETT.—Dr. Bennett believes that the therapeutic action of the oil is dependent essentially on its being a fatty matter, perhaps more easily assimilated to the economy than any other

kind of fat. He thinks the views of Ascherson fundamentally correct, with this difference, that instead of oil and albumen uniting to form elementary cells, they only produce elementary molecules and granules, from which nuclei and cells are formed. To him it seems certain, that in chronic rheumatism and tubercular diseases, the albuminous compounds are in excess, and the oily compounds are diminished in the economy. The direct addition of the latter, therefore, is the most rational method of supplying the wants of the system.

It may reasonably be argued, that if the theory of its action as fatty matter be correct, any other kind of oil would prove just as serviceable, and certainly there are many much more agreeable to the palate. Experience, however, has decided this question in the negative. The reason of this probably is, that continued doses of the purest vegetable oils, as that of the olive and almond, are more or less purgative, and thereby diminish, instead of improving, the strength. It may also happen that the pungent properties of cod liver oil may have a favourable influence in retaining it on the stomach, and rendering it digestible. Lastly, it seems reasonable that an animal oil should be much more easily assimilated to the system than a vegetable one.

Since the publication of Dr. Bennett's work on cod liver oil, in 1841, the chemical views of Liebig and others have come into notice, and it is a remarkable fact that they perfectly harmonize with the histological and morphological theory therein advanced. For, whether we regard the oil as a carbonized principle of the food, as furnishing an element for respiration, or as necessary to the formation of elementary granules in a nutritive blastema, it seems equally fitted to serve the end in view.

That a purely chemical theory, however, is defective, is proved by the fact that every carbonized material is not fit for the purpose. We cannot produce an increased nutrition in rheumatic or phthisical constitutions by alcohol, sugar or starch, notwithstanding their chemical composition is so similar. The chemists may argue that these are converted into fats; and in the physiological condition so they are. In a pathological condition, however, when the digestive powers are enfeebled, this does not take place; and, in giving an animal oil ready made, we save the elementary organs the trouble, as it were, of doing this. Hence, in constitutions which cannot digest food, or convert it into the oily element, the introduction of cod liver oil, in large doses, causes the necessary principle easily to be imbibed into the lacteals, where, uniting with the albumen, it constitutes the elementary granules so necessary to nutrition.

It is on this account, that in every disease of a rheumatic or tubercular nature, attended with impairment of nutrition, emaciation, weakness, &c., cod liver oil is directly indicated. It operates by imparting to the system one of the great elements necessary for the nutrition of the animal economy, in cases where that element is essentially defective. In the hands of the rational practitioner, it is destined to be an important means of curing a class of diseases, hitherto considered of the most dangerous and fatal nature. As our knowledge of morbid processes improves, as the microscope and organic chemistry open up to us the primary alterations producing lesions of the body, the great importance of attending to the part played by the oily principle, as one of the essential elements of nutrition, will become apparent. Then, when pathology is made the companion of physiology, and both constitute the foundation for a rational system of therapeutics, the use of cod liver oil will be found as beautiful in theory as it has already been found beneficial in practice.—*Monthly Journal and Retrospect*, May 1848, from *Bennett on Cod Liver Oil*, Edin., 1848, 8vo.

20. *Quinine in Intermittent Fever*.—M. BOUCHARDAT conceives that intermittent fevers may be usefully arranged under four forms or varieties, according to the intensity of the disease, and the corresponding effect of quinine on its course and duration. The *first form* includes those obstinate cases which require large doses (15 to 30 grains) of quinine for their temporary cure, but in which, in spite of the methodical use of the remedy, the fever continues to recur for years. This variety is found in Italy, North of Africa, &c., and is contracted, according to Bouchardat, by a lengthened residence in the neighbourhood of marshes, the water of which contains sulpho-salts in solution. To the *second form* belong those cases which

require, but may be effectually cured by large doses (15 to 25 grains) of quinine. An intermittent of this kind prevails at Tours, and has been well described by M. Bretonneau, who observes that small doses are here insufficient. They habituate the patient to the action of quinine, irritate the stomach, and render it difficult to obtain the full action of large doses. The *third form* comprises those mild cases in which small doses (1 to 5 grains) are sufficient, not only to arrest the fever, but also to prevent its return. Lastly, he includes in a *fourth form*, the numerous cases in which change of residence, or admission into hospital, is sufficient to remove the disease.—*Gazette Médicale de Paris*, Jan. 1848.

[This classification of intermittents is certainly of considerable practical value, and serves to establish the principle, that the dissimilarity of action of the same remedy may indicate differences in diseases apparently identical occurring in distant parts of the globe. The cases of intermittent fever observed in Paris and Vienna, belong to the third and fourth forms of M. Bouchardat. Thus, the practice of Skoda of Vienna, which consists in giving three doses of quinine, of two grains each, at intervals of one hour previous to the usual period of accession of the paroxysm, rarely fails to effect a cure in two or three days. On the second or third day he sometimes increases the third dose to four or six grains. The form of intermittent is, however, so mild, that we have repeatedly seen cases in other wards of the same hospital recover without any treatment whatever. On the other hand, the experience of physicians in Italy, Africa, and some parts of North America, has shown that small doses of quinine are quite inefficient in the treatment of the intermittent fever prevalent in these parts of the world]—*Monthly Journ.*, May 1848.

21. *Double Pneumonia*.—*Hepaticization of the Posterior Portions of the Lower and Middle Lobes of both Lungs*.—*Recovery*. By W. H. RANKING, M.D.—A young gentleman, aged 17, of delicate frame, subject in infancy and childhood to repeated attacks of inflammatory croup, after exposure to cold was attacked March 22d with symptoms which were considered to indicate a common "bilious attack." It appears that he had some cough from the first, but this symptom was not so severe as to cause any anxiety on the part of his medical attendant until the 27th, when a sudden aggravation of the pulmonary symptoms induced him to seek my co-operation.

When seen by me on the morning of the 28th, the patient was in the following condition:—Decubitus on the back, raised by pillows; countenance sunken, pale, and anxious; *alæ nasi* in rapid motion; whole surface bathed in perspiration; respiration 60 in the minute, abrupt and superficial; pulse 130 to 140, feeble; cough slight; expectoration scanty, tenacious, and rusty. On raising him into a sitting posture, it was found that all the axillary muscles of respiration were in full play, and it was evident from the short and rapid breathing that a small portion only of the lungs was pervious to air.

Physical signs.—Dullness on percussion of the posterior portions of both lungs, extending from an inch above the angles of the scapula on the left side, and about half an inch on the right; above these points, and over the anterior regions of the chest, the stroke-sound was normal, or nearly so; over the entire space indicated by dullness on percussion, the vesicular murmur was extinct, and in its place loud bronchial or tubular breathing was heard, the expiratory "whiff" being peculiarly well marked. These signs were developed in their greatest intensity on the left side. In the upper lobes, posteriorly and in front, the respiration was puerile, but no crepitus could be discovered by the most attentive examination. The lower ribs behind were motionless.

The above combination of physical signs, pointing out distinctly the existence of double pneumonia in the stage of hepaticization, treatment to the best of my judgment, suitable to the emergency, was at once adopted. Six leeches were ordered between the angles of the scapulæ as the only depletory measure admissible, and these were to be followed by a blister. The subjoined pill was also exhibited every two hours:—

R.—Hydr. chlorid. gr. ij; ant. potass. tart. gr. $\frac{1}{2}$; pulv. opii gr. $\frac{1}{4}$. Fiat Pilula. And eight grains of sesqui-carbonate of ammonia were given every four hours, in decoct. senekæ. Beef tea *ad libitum*.

29th. The leeches had bled well and the patient expressed himself as relieved at first by them, but at the time of our visit he was apparently all but asphyxiated by the sudden accumulation of bronchial secretions, which he was unable to expectorate. Suffocation appearing imminent from this cause, he was raised into the semi-erect posture, and brandy and water administered several times during the day.

30th. Has expectorated a considerable quantity of frothy phlegm, under the stimulus of the brandy, and the immediate danger of suffocation has passed. The mucous rhonchi have also subsided as suddenly as they appeared.

For the next two days there was no very obvious change, but it was evident that the patient did not lose ground, a matter, under the circumstances, sufficiently encouraging. Pergat.

April 2d. General aspect improved; respiration sank to 40, and the pulse to 100; skin cool; tubular breathing less distinct, and vesicular breathing beginning to appear, especially on the right side. No "*crepitus redux*" heard, though carefully listened for. As the bowels had been several times purged, and the motions were green, the calomel was replaced by mercurial dressing to the blister, and he had mist. creta.

4th. Expresses himself as considerably better; scarcely any cough, and expectoration scanty, but less tenacious, containing a small quantity of pus, and occasionally streaked with blood; gums becoming tender; purging suspended. Both lungs "clearing up;" tubular respiration almost gone on the right side; *still no crepitus*.

5th. Mercurial feto well pronounced. The blister to be dressed less frequently. Ordered pulv. ipecac. gr. j; extr. conii gr. iv in pill, every six hours. To continue the mixture.

7th. Pulse 90; respiratory murmur heard fully to the base of the right lung; the left less permeable to air.

12th. Has continued steadily to improve; there has been but little cough or expectoration, but the respirations and pulse have gradually come down to the natural standard. Sits up and takes food with appetite. On examination of the chest, the left side is observed to be flatter than the right, and measures less by nearly an inch; it has a less extent of motion in breathing, but air may be heard to penetrate to the base, by causing the patient to take forced inspirations. Ordered potass. iodidi scr. j; vin. ferri oz. j; infus. gent. oz. vj. Sumat cochl. magn. ter in die.

From this period no regular reports have been taken, but occasional examination has satisfied me that the left lung is gradually recovering itself, and the side expanding in proportion. He has now returned to his usual food and habits.

Remarks.—The above case offers instructive evidence of what energetic medical treatment is able to accomplish, under apparently the most hopeless circumstances, and affords as triumphant an answer as could well be wished to those who would depreciate the efficacy of medicine, in order to magnify the restorative powers of unassisted nature. At the time of my first seeing the patient his vital energies were so much sunk, and the extent of lung rendered useless for the purposes of respiration so great, that I did not entertain the smallest hope of saving him, but, on the contrary, his death appeared all but inevitable—certain, if he remained many hours longer unrelieved. Pneumonia advanced to the stage of hepatization, and occupying a large portion of even *one* lung, is a disease of very considerable danger, and medical efforts are often baffled, although the patient possesses one sound lung for the maintenance of respiration. Here the major portion of both organs was rendered impermeable by air, and recovery must be looked upon as a rare, a fortunate event. Andral states that he has never known a patient recover from pneumonia, whose respirations reached fifty in the minute. In the present instance this number was exceeded, and they remained as high as forty for a space of two days.

Two points especially worthy of notice, are the trifling amount of cough and expectoration, and the restoration of the lungs, without the reappearance of the "*crepitus rale*." It is the not uncommon absence or trifling amount of cough, which causes pneumonia to be so often overlooked in its early stage by those who are not conversant with the practice of auscultation. An instance has occurred

to me within the past year of one lung becoming almost universally solidified from pneumonia, which the medical attendant, an elderly practitioner, quite unacquainted with auscultation, and occupied by a co-existing jaundice, had entirely failed to recognize; nor could I convince him of the fact, *because there had been but little pain and cough* in the earlier period of the attack. I saved this lady's life by at once commencing a vigorous mercurial treatment, but to this day I have reason to know the gentleman in question considers that the solidified lung was the offspring of my imagination.

The second point to be noticed, (the restoration of the hepatized lung without the reproduction of "crepitus,") is one of particular interest. From the time of Laennec till now it has been known, that when a portion of lung which has been solidified by inflammation begins to be restored, the crepitous rale which had disappeared as bronchial breathing becomes developed, again re-appears as the "crepitus redux." That this is the ordinary course of events is beyond dispute, and is alluded to by Watson, Williams, and, in fact, by every recent writer and lecturer on diseases of the chest. It may, therefore, be readily imagined, that I was not a little surprised to find that, though there was indisputable proof of amendment in the condition of the lungs of our patient, I yet could not on the most minute and repeated examination discover any "crepitus redux." The character of the breath-sound passed at once from the bronchial to the vesicular, the latter gradually gaining upon, and eventually displacing the latter. I could not at the time account for this, and was content to note it down as a *fact*, that "crepitus redux" is not an invariable accompaniment of the resolution of pneumonia; when, upon turning to that admirable example of bed side teaching, Graves' "Clinical Medicine," I found the same fact had been observed by its author, and under precisely the same circumstances as were offered in the present case—viz., recovery, with trifling cough, and little or no expectoration. Dr. Graves remarks, that in ordinary cases resolution of pneumonia takes place by increased secretion, together with interstitial absorption, but the latter alone is sufficient in certain instances. When such is the case, and no secretion takes place into the bronchial ramifications, there can be no "crepitus redux."

This case offers still another feature of interest, in the sudden occurrence of imminent suffocation from effusion into the larger bronchial tubes on the 29th. This effusion was evidently asthenic, resembling that which occurs towards the close of many other diseases. It might not have been of so much importance under some conditions of disease, but here it was a most formidable complication, obstructing what little portion of pulmonary tissue had been spared by the original malady. It was promptly met by the free exhibition of brandy, a few doses of which enabled the patient to discharge a quantity of frothy mucus. The urgent debility being thus obviated, the symptoms did not reappear.

The treatment was conducted on general principles. Depletion to any extent was inadmissible, and it is questionable if free blood-letting is of use after hepatization has taken place, even if the patient's strength would tolerate it. All that is necessary in this stage, is by removing a small quantity of blood, to induce something like a balance between the bulk of the circulating fluid, and the diminished capacity of the lungs. I regretted even the application of a few leeches, in the present instance, and am not sure that they were not the cause of the sudden bronchial effusion above mentioned. It will be seen that mercury was looked to as the sheet anchor. Such I regard it to be in the stage of hepatization. The time is then gone by when good is to be expected from the use of large doses of antimony. The air-cells are clogged by fibrinous deposit; and the best absorbent of lymph, whether in the pulmonary tissue or between the layers of the cornea, is mercury. The iodide of potassium also did good service in completing the resolution of the obstructed lung.—*Provincial Medical and Surgical Journal*, May 17, 1848.

22. *On the Nature, Cause, and Prevention of Scurvy.* By A. B. GARROD, M. D., (*Monthly Journal of Medical Science*, Jan. 1848.) It appears from the various accounts that we have of scurvy, that although impure air, cold, moisture, age, and condition of habit, may favour the occurrence of scurvy, yet none of them, Dr. Garrod conceives, can be regarded as the real cause which must be sought for in

the nature of the food. The causes of the disease, he says, are thus reduced to one of the two following, viz:—

1st. To the absence or deficiency of some *organic* substance in the food.

2d. To the absence or deficiency of some *inorganic* constituent.

Finding that all the theories of scurvy hitherto advanced were imperfect, Dr. G. was led to examine more minutely the composition of food under the use of which scurvy was capable of occurring, and also of such substances as had been proved beyond doubt to be anti-scorbutic, and afterwards to seek for the absence or deficiency of certain normal substances in the blood; and from such examinations he was led to the following conclusions:—

1st. That in all scorbutic diets, *potash* exists in much smaller quantities than in those which are capable of maintaining health.

2d. That all substances proved to act as anti-scorbutics contain a large amount of *potash*.

3d. That in scurvy the blood is deficient in *potash*, and the amount of that substance thrown out by the kidneys less than that which occurs in health.

4th. That scorbutic patients will recover when *potash* is added to their food, the other constituents remaining as before, both in quantity and quality, and without the use of succulent vegetables or milk.

5th. That the theory which ascribes the cause of scurvy to a deficiency of *potash* in the food, is also capable of rationally explaining many symptoms of that disease.

Dr. Garrod gives the following table showing the amount of potash contained in several articles of diet.

	Grains.
1 oz. of Baker's Best Bread (City),	0.259
1 oz. of Best Bread (West End),	0.257
1 oz. of Home-made Bread, probably containing potato flour,	0.262
1 oz. of Best White Flour,	0.100
1 oz. of Bran,	0.609
1 oz. of Rice,	0.005
1 oz. of Rice,	0.011
1 oz. of Oatmeal,	0.054
1 oz. of Split Peas,	0.529
1 oz. of Raw Beef,	0.599
1 oz. of Salt Beef, raw,	0.394
1 oz. of Salt Beef, boiled (slightly salted),	0.572
1 oz. of Boiled Mutton,	0.637
1 oz. of Dutch Cheese,	0.230
1 oz. of Boiled Potato of large size,	1.875
1 oz. of Raw Potato (small),	1.310
1 oz. of Boiled Potato, without peel and well done, water containing much potash,	0.529
1 oz. of Onion (small),	0.333
1 fluid oz. of London Milk,	0.309
1 oz. of Orange (not ripe) including septa,	0.675
1 fluid oz. of Lime Juice,	0.852
1 fluid oz. of Lemon Juice,	0.846

1st. *Potash is deficient in scorbutic diets.*—Dr. G. shows that this is the case, by an examination of the dietaries of some workhouses and prisons, the inmates of which have become scorbutic.

"In the diet of sailors," he observes, "we find abundance of meat (salted beef and pork); but no doubt the quality of these provisions is often much impaired by the prolonged action of the salt, causing the gradual exosmosis of the potash salts, and the substitution of those of soda. In an analysis of beef which has been exposed for only a few days to the action of brine, but where the thickness of muscle was not more than $1\frac{1}{2}$ inch, there was found to be a considerable diminution of the potash. One ounce of fresh beef gave 0.599 grains of potash, one ounce of salted beef 0.394 grains; and there can be little doubt but that a prolonged action of the brine would reduce very greatly the amount of potash

salts in the largest joints. So that the sailor's weekly dietary, when no vegetables can be procured, consisting of, $9\frac{1}{2}$ lbs. of salted meat, about 7 lbs. of flour in the form of biscuits, and $1\frac{1}{2}$ pints of peas, would contain about 90 grains of potash, supposing the meat such as stated above.

"2d. *That all bodies proved to be anti-scorbutic contain a large amount of potash.*—All fruits contain this substance in abundance, as oranges, lemon, limes, grapes, gooseberries, &c., and these are all highly anti-scorbutic. Potatoes also, which perhaps are the most valuable as an addition to a dietary for the purpose of preventing scurvy, and owing to the scarcity of which article this disease has been so prevalent within the last two years, contain, as the above analyses prove, a very large amount of potash, and when boiled, (not too much, and unpeeled,) still retain most of that ingredient; this also accords with the fact, that potatoes, when cooked in the ordinary way, are anti-scorbutic, and at the same time explains why the hard core of that tuber, which is so much liked by the Irishman, is most powerful in preventing the occurrence of scurvy, (see Dr. Lonsdale in August number of this Journal.) Milk, which is undoubtedly a good anti-scorbutic, and upon which the young of animals are for some time sustained, contains a very large proportion of potash salts compared with those of soda, being an exception to the relation between these two classes of salts which is found in the other animal fluids,—a pint of milk (London) and having a sp. gr. of 1.021, containing 6.180 grains. This was probably considerably diluted, as the usual sp. gr. is from 1.026 to 1.030. Berzelius's analysis gives about 9 grains; but the sp. gr. of the milk which he analyzed was much greater, about one-third. Fresh meat also contains potash in rather large proportion; and there is no doubt that animals, such as the carnivora, living entirely on this substance in its uncooked state, take an amount of potash quite sufficient for the wants of the system. When we examine other articles noted for preventing or curing the disease in question, we find that potash enters into the composition of all in considerable quantities; this is true with regard to cabbages, turnips, onions, garlics, leeks, and hence their efficacy, and also of pickles and sour-kraut made from them; the same is the case with the young tops of plants, as of the *Pinus sylvestris*, &c., when a decoction is made. Potash is also found in spruce beer, wort, malt liquors, wines, especially the lighter description, which contain this substance in the form of a bitartrate, but which becomes deposited in the stronger varieties.

"3d. *In scurvy the blood is deficient in potash, and the amount of that substance thrown out by the kidneys is less than what takes place in health.*—A hundred grains of the dried serum of healthy blood, when incinerated and heated with the bichloride of platinum, gave 1.582 grains of the double chloride of potassium and platinum. A hundred grains of dried serum of scorbutic blood, treated in the same way, gave only 0.627 grains of the same salt; so that the amount of potash in scorbutic blood was little more than one-third that contained in the blood in health, although the total amount of saline matters was nearly equal. In one case, a female, at 50, complaining of great prostration of strength, spongy gums, effusion in both ankles, &c., the amount of urine passed was $22\frac{1}{2}$ fluidounces in the twenty-four hours—sp. gr. 1.015. Reaction *very acid*, and on standing, deposited mucus intermixed with uric acid crystals. The amount of potash excreted in twenty-four hours was much less than in health, being less than 7 grains; but a slight accident prevented a very accurate determination of the quantity.

"In another case, the amount thrown out in twenty-four hours was 40 oz. Sp. gr. 1.010, and acid in its reaction.

"4th. *Scorbutic patients, when kept under a diet which gave rise to the disease, recover, when a few grains of potash are added to their food.*—In several cases which came under my care, the treatment consisted in the daily administration of a few grains (from 12 to 20) of some salt of potash mixed with syrup and water. Sometimes the bitartrate, at other times the acetate, and also the carbonate and phosphate were used. All the salts appeared to act alike, and I have little doubt but the chloride of potassium would be found equally efficacious. When the cases were thus treated, all vegetables, milk, and malt liquors were strictly prohibited; and yet the patients rapidly recovered. Other cases were treated by fresh vegetables and milk: these also recovered, but certainly not more quickly than those from whom these substances were withheld, and potash salts substituted. On looking over the works

of several writers on scurvy, I have frequently found that some *potash* salt has been administered with *marked* benefit; thus, nitre has been recommended, nitre dissolved in vinegar, the bitartrate of potash, the oxalate of potassa; but the efficacy has always been ascribed to the acid contained in these substances, and no attention has been paid to the base.

"5th. *The theory which ascribes the cause of scurvy to a deficiency of potash in the system, is capable of explaining some of its symptoms*—Both soda and potash are constant constituents of the animal body, and it appears that they are not capable of replacing each other; for example, we always find the potash to exist in large quantities in the ash of muscle, soda in very small quantities (Berzelius, Liebig); in the ash of the blood we find the relation reversed. It appears, also, that the muscular system requires the presence of potash, and we should therefore expect to find that where there is a deficient supply of this base, the effect would soon be manifested in the functions of that system. This we find to be the case in scurvy; without any amount of wasting of the body we find marked muscular debility, and this perhaps is one of the earliest symptoms of the disease."

23. *Tubercle and Cancer.*—In the hospitals of Paris, Dr. ROGETTA states (*Annales de Thérapeutique*, November 1847) the greatest mortality is owing to pulmonary tubercle and cancerous affections. Cancer is found with fearful frequency, in all its forms, in every region and in every tissue. It is an incurable disease, whether operated upon or not, and we are ignorant whether the most successful operation has ever retarded for a moment its natural termination. There is not even a general indication with respect to its treatment, and prescriptions are limited to opiates in every form, in the vain presumption that such remedies calm the pains. The disease is incomparably less frequent in the centre of Italy, but instead, there are continually found severe affections of the arterial trunk, especially spontaneous aneurisms, with general disease of the arteries, which often render operations inefficacious or insufficient.

24. *Free Communication between the Ventricles without Cyanosis.*—Dr. HARE exhibited to the Pathological Society of London, April 17th, two cases of malformation of the heart. The subject of the first case was a child five months of age. The ventricles were hypertrophied without dilatation, and there was an aperture in the septum ventriculorum.

The subject of the second was a child fourteen months old, the ventricles were slightly dilated and not hypertrophied; the foramen ovale was imperfectly closed, and there was imperfection of the septum ventriculorum. Notwithstanding the communication between the ventricles, there was no cyanosis. We are thus furnished with two more to the numerous cases already recorded, showing that the mixture of venous and arterial blood is not the cause of cyanosis.

25. *Erysipelas of the Hairly Scalp.* By M. GRISOLLE.—Erysipelas of the hairy scalp without consecutive extension to the face is so rare a disease, that M. Chomel has not seen more than three or four cases during his long practice. An example falling recently under M. Grisolle's observation, he made a few remarks upon it. In this case the disease occurred without any previous injury or wound of the scalp whatever; and it offered a good example of a characteristic of the affection pointed out long since by M. Chomel,—namely, enlargement of the cervical glands. This is not a constant though a very common symptom, and precedes the occurrence of the erysipelas by two or three days; and whenever M. Grisolle meets with it in an individual otherwise well, and suffering from no chronic affection of the head, or wound or erosion in the vicinity, he always prophesies the supervention of erysipelas of the scalp. In the present case, the earliest symptoms were a stiffness of the neck and an enlargement of these glands. These enlargements also occur in other affections, but then they do so *consecutively* only, and do not form, as in this erysipelas, a *precursory* symptom. It is of importance to attend to this, as erysipelas here manifests itself sometimes only by very obscure symptoms. Pain and œdema of the scalp are, however, usually present, and redness may be seen by close examination. Vesicles never form on the scalp,

the disease usually terminating by desquamation, which may be prolonged for several weeks. Numerous small abscesses sometimes appear at the close of the disease. When the disease is traumatic, it may take on the phlegmonous form, and the case then becomes very serious. However great the detachment of parts this may cause, gangrene of the scalp never occurs; which Dupuytren explained by the fact of the vessels passing between the aponeurosis and the skin remaining uninjured amidst the destruction of the cellular tissue. Delirium is one of the symptoms most to be feared. It is, however, only sympathetic, and not due to inflammation of the brain or its membranes; for in the autopsies made in these cases by MM. Chomel, Louis, and Grisolle, no apparent lesions beyond a vivid injection of the scalp have been discovered. M. Grisolle predicted that the erysipelas in this case would not extend to the face, in consequence of the absence of the well-defined line and the red indurated border, which are always seen in erratic erysipelas.—*B. and F. Med. Chir. Rev.*, April 1848, from *L'Union Médicale*, No. 14.

26. *Condition of the Gums in Phthisis.*—Dr. FREDERIQ's attention was first called to this subject in 1844, when he observed a line of a red brick colour near the free edge of the otherwise normal gums of a phthical patient. The line was very narrow, and ran parallel with the edge of the gums, but only opposite the incisors and canine teeth. Since that period, he has examined the gums in numerous subjects of phthisis, and has always found this red line more or less distinctly visible, although sometimes only opposite the inferior median incisors. The researches of the author do not enable him to say whether this sign manifests itself as one of the earliest symptoms of phthisis, nor to declare absolutely that it is seen in no other disease, although he has never yet met with it in such.—*Ibid.* from *L'Union Médicale*, No. 5, 1848.

27. *Laryngitis*.—[Mr. PARR communicated to the Surgical Society of Ireland, (March 4th,) the following interesting case of Laryngitis.]

CASE I.—James Anderson, æt. 30, a delicate-looking man, carpenter by trade, admitted into the temporary fever hospital under my care, about four weeks ago, labouring under pneumonia, for which I cupped, blistered, and mercurialized him. In the course of ten or fourteen days he was convalescent, the disease having terminated by resolution. On Wednesday, the 23d of February, upon visiting this patient, I found him complaining of some difficulty of swallowing from a sore throat. Upon examining the fauces, the velum and tonsils were found inflamed. There was no difficulty of breathing. For this I applied a few leeches to the angle of the jaw, and touched the surface with solution of nitrate of silver, and freed the bowels. The following day the symptoms were not relieved; the tonsils were slightly enlarged, the right presenting one small speck of ulceration. I looked upon the case as one of cynanche tonsillaris, caused by exposure to the draught of a window which was near his bed. On the 25th I observed a slight stridor. Patient complained of increased cough and expectoration of frothy mucus during the night.

Upon passing the finger into the throat, the epiglottis was found to be soft and erect, the voice raucous, and pain caused by pressure on the thyroid cartilage; respiration laboured; pulse quick, and countenance anxious.

Concluding the patient to be labouring under laryngitis, I ordered ʒss of calomel immediately, to be followed every second hour by 2 grs. and gr. ¼ of opium and 4 oz. of wine.

Upon visiting the following morning, my hopes of success from the mercury were disappointed by finding the patient had refused to take more than two doses of the medicine from the pain occasioned by swallowing. The symptoms were not relieved, but a very slight mercurial fetor existed. It was determined, in consultation with Dr. Brady, to give the mercury a fair trial, and so the small doses were repeated. At eight P.M., no appreciable amendment was discovered; but as he stated he felt some relief, and fetor was more evident, the remedy was persevered in. About twelve that night, pyralism was fully established, dysphagia much diminished, and breathing considerably relieved. After this he fell into a sleep which lasted two or three hours, at the end of which period he awoke in

a state of great exhaustion, from which he never rallied, and under which he gradually sank about five the following morning.

Twenty-eight hours after death, I examined the parts and found the mucous membrane of the fauces highly vascular, the uvula infiltrated, the epiglottis much thickened and inflamed, the rima glottidis reduced to a small slit, through which only the handle of the scalpel could be introduced. The mucous membrane of the trachea was highly vascular, presenting no trace of ulceration or adventitious membrane.

CASE II.—The next case is that of a girl, five or six years of age, who suffered from an attack of the epidemic, accompanied by some slight bronchitic affection, from which she was convalescing. On the 28th of February my attention was attracted by a peculiar hard cough, having the ringing sound, so characteristic of, and described as the harbinger of croup. The little patient complained of no uneasiness, nor had she been observed to cough for some days previous. The pulse was not accelerated, nor was there any difficulty of breathing. Being fearful of an attack of croup, I ordered a solution of tartar emetic (one grain to the ounce), of which a teaspoonful was given every twenty minutes till it vomited, and then continued during the day in smaller doses. Low diet.

29th. The medicine produced its emetic effects, and no further cough occurred, but a slight hoarseness remained. The medicine to be continued in smaller doses.

About seven that evening, intense dyspnoea occurred, which threatened to carry off the patient. Four leeches were applied to the thyroid cartilage, and the tartar emetic increased. A large quantity of frothy mucus was ejected. The leeches bled freely, and greatly relieved the patient. About twelve the child was comparatively easy, but did not sleep. Towards morning, the spasm increased, and upon seeing the patient at nine A.M., the breathing was most laboured, the child gasping, the diaphragm and intercostals acting powerfully, the lips were livid, and breath cold—in fact, each gasp appeared as if it would be the last. Dr. Moss and I concluded that there was no chance of saving the life of the child but by means of operation; so as quickly as I could procure the instruments, tracheotomy was performed at eleven. No blood of any amount was lost. Upon opening the trachea, great relief was experienced, the lividity partly disappeared, and the pulse became fuller. The patient was then wrapped in warm flannel, and placed in bed by the fire, being ordered one grain of calomel every hour, with a small quantity of wine. In twenty minutes after the operation, she fell asleep, which lasted about an hour and a half, when she awoke and asked for drink; almost immediately after, she began to sink, and died in ten minutes.

From the foregoing cases, we must be particularly struck with the necessity of carefully watching all convalescents, whether from fever, pneumonia, or in fact, any disease which tends to depress the powers of life.

The occurrence of laryngeal affections is by no means rare after fever, and the treatment of such more difficult, and the applications of antiphlogistic measures more hazardous than in idiopathic affections of the like nature.

The rapidity with which this disease runs its course to a fatal termination renders it imperative that something decisive should be done, and that quickly.

Now, as to the application of the ordinary measures made use of in the treatment of this disease (occurring as a primary affection). the first of the foregoing cases indicates the danger of waiting for mercury to exhibit its specific influence; and the second, the inefficacy of tartar emetic to remove the mechanical obstruction; and thus where tracheotomy is finally had recourse to, tends to bring a good operation into disrepute.

In one case, we have the mineral producing salivation (but at a late period), and thus relieving the symptoms, and holding out hopes of ultimate success; but these were frustrated, in consequence of the low ebb to which the powers of life were reduced, by three causes—first, pneumonia; second, the secondary, or laryngeal affection; and thirdly, the effect of the remedy, notwithstanding the use of stimuli.

That the existence of mercurial action in the system does not modify the effects of inflammation, is evident, as this man was not entirely free from the action of the mineral when seized with the secondary affection.

Another important point is exhibited in this case—namely, that the disease of such a fearful nature may assume at first an appearance of one of every day occurrence—in fact, it may commence as a common sore throat.

Now, as to the propriety of performing tracheotomy in this case at an early period of the disease (notwithstanding the pre-existence of pneumonia), would that operation have afforded hope of ultimate success? I fear not, as the patient would have had to battle against bronchitis, which is almost a constant consequence of the operation.

However, I proposed the operation, but as it was considered that mercury had not had a fair trial, so it was determined to persevere in its use so long as hopes of success could be entertained. The result we have seen.

In the second case we see the fatal result follow the operation sixteen hours after the disease declared itself. The cause of failure in this instance is evident. Had the child had the benefit of the simple operation after the leeching and tartar emetic failed in affording permanent relief, I have no doubt it would have been successful.

From these facts I argue that the frequent failure of tracheotomy, like the similar result after the operation for the relief of strangulated hernia, is due to that remedy being too long delayed, in order to make use of less certain means of cure.

Mr. Parr has seen four cases of this disease, one of which was operated on by Dr. Porter, and recovered. In reply to a remark of Dr. O'Ryan, that he had seen in one of the French Journals scarifications of the rima glottidis recommended, Dr. Parr observed that the French had invented a sort of ring, of which he had two or three sizes, which was passed into the mouth, and kept down the base of the tongue, so that by means of such an instrument, scarifications of the rima glottidis might be effected without much difficulty.—*Dublin Med. Press.*

[A similar operation has been recommended by Dr. Buck in œdema of the glottis. See this Journal for Oct. 1847, p. 543.]

28. *Steracutine*.—Dr. VERGA ANDREA, of Milan, read a communication to the Italian Scientific Congress, held at Venice, Sept., 1847, on a fatty substance of a greenish colour, sometimes passed by children at the breast, and to which the name of steracutine was given some time ago by Prof. Semmola, of Naples, and the production of which the Prof. ascribes to the imperfect digestion of the buty-raceous portion of the milk. Dr. Verga's researches tend to elucidate the following points:—

1. That children at the breast void such solid fatty concretions, when under the influence of certain diseases, is correct. These concretions are more or less rounded, transparent in their periphery, soft to the touch, insoluble in water, but soluble in alcohol.

2. This substance is not voided by sucking children only; they have been seen at six and seven years old, and even in adults.

3. Nervous diseases are not the only affections connected with it; the author has observed it in measles and meningitis.

4. This substance is almost exclusively composed of stearine, and cholesterine exists in it in a very small proportion.

5. There is no constant and regular connection between these evacuations and the progress of the diseases during which they may be observed.

6. Like other excretions, this may prove critical and salutary, or it may be merely symptomatic, and of a bad omen.—*Lancet*, March 18, 1848, from *L'Union Médicale*.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

29. *Cases of Femoral and Popliteal Aneurism successfully treated by Compression*.—A case of femoral aneurism cured by compression in thirty-three hours, by Staff-Surgeon HUMPHREY; and another of popliteal aneurism cured by compression in six days, by J. TUFFNEL, Esq., with some very interesting remarks on these cases

and on the advantages which compression possesses over the ligature in the treatment of aneurism, by Dr. BELLINGHAM, are contained in the *Dublin Medical Press* for Dec. 1, 1847.

The subject of the first case was a soldier, 31 years of age, with an aneurism about the size of half an orange, at the lower third of the thigh, which had first been observed three weeks previously. At 12 o'clock on the 23d July, Read's aneurism compress was applied over the femoral artery of the groin, and the screw tightened so as to stop pulsation in the sac, and render the passage of the blood through the vessel imperceptible by the stethoscope. A clamp was loosely applied over the artery in the middle of the thigh, to be used when the pain from the instrument in the groin became too severe. In half an hour, the limb became slightly swollen, and of a darker colour, and its temperature fell. A flannel roller was applied from the foot to above the knee. In an hour and a quarter, the pain in the groin having become very intense, the instrument was relaxed, the clamp having been previously screwed sufficiently tight to command the circulation. About two o'clock (two hours after the first application of pressure), stinging pains began to be felt in the aneurismal sac and neighbouring part of the thigh, which became very tender to the touch. The point of pressure was changed every hour at first, but afterwards every twenty or twenty-five minutes, care being always taken to effect compression of the artery with the second instrument before relaxing the other, in order to prevent a jet of blood into the sac. At nine in the evening, the pain in the thigh being very severe, both instruments were loosened, and the part examined; the tumour was found to be much firmer, very painful when handled, and pulsated more feebly. An anodyne draught was administered, and the management of the instruments left to the patient himself during the night.

24th. The patient had no sleep from the pain in his thigh, and throughout the whole limb, which continued until three o'clock in the morning, and then gradually subsided. The tumour was considerably smaller and less painful, quite firm and solid, but still pulsated when the compressing instruments were taken off. The limb felt benumbed, and sensation was slightly impaired. Pressure was continued throughout the day by the two instruments alternately used. At nine in the evening, thirty-three hours after their first application, pulsation had entirely ceased in the tumour, the femoral artery could be traced to the sac, but no pulse could be felt in any of the arteries below that point, nor could the articular branches be felt about the knee. On the 25th, the use of the compressing instrument was discontinued. On the 4th Aug., the patient was discharged cured.

The second case occurred in a sawyer, 27 years of age, of intemperate habits, who came under Mr. Tuffnell's care on the 3d of Nov., with popliteal aneurism. At 2 P.M., Nov. 3d, twelve ounces of blood of a highly carbonaceous character were taken from the arm, and a drachm of the compound powder of jalap administered. At six o'clock P.M., pressure was commenced, by means of Read's instrument placed upon the artery as it crosses the pubis, and the ring tourniquet at the lower third of the thigh, the pulsation being entirely checked, and the patient taught how to alternate the pressure. This was borne till next morning at six A.M., when the pain became so severe in the limb generally, that he removed the instruments altogether.

November 6th. No alteration in the pulsation; the patient slept at intervals, and the bowels were once moved; pulse 78, and full. The same pressure was reapplied.

7th. The glands in the groin have become inflamed, and Read's instrument has been removed, the patient being directed to make pressure with his thumb against the pubis, and thus control the circulation, an assistant keeping his hand upon the tumour to ascertain the return of blood into it, and to direct increased pressure accordingly. The ring tourniquet was moved to the entrance to the canal in the adductors. At the evening visit, the leg was found to be œdematous, and the patient complaining of numbness, which was removed by bandaging the limb with a flannel roller, and elevating it on a stretcher made for the purpose.

8th. The pulsation has diminished, and the œdema is gone, the patient making no complaint. The ring tourniquet has been continued on the thigh, and pressure by a seven pound weight substituted for that of the thumb in the groin. Circulation has been arrested nearly all day.

9th. Says that he has not slept, that there is much pain *in the tumour*, and that he dreads unscrewing the ring tourniquet from the increased pain occasioned by the jet of blood into the sac. Patient slightly feverish, and complaining of headache, but of no pain in the foot or leg. Almost constant arrest of circulation during the past twenty-four hours.

10th. Using the ring tourniquet and weight; pain in the tumour diminished towards morning, when the patient slept, and awoke free from headache or thirst; says that he does not feel the blood jerk into the sac as heretofore, and that he does not now mind its influx. The clamps were substituted for the ring tourniquet and weight—one being placed at the centre of Scarpa's space, the other at the commencement of the canal in the adductors.

11th. Experienced much pain in the tumour and down the leg all the morning. At noon, whilst dozing, he was awakened by a sudden, acute, burning pain in the tumour and knee, which for two hours continued to be very severe. It then gradually subsided. On removing the pressure, *all pulsation in the tumour had ceased*. When visited at six, P. M., the foot and toes were cold, but friction speedily restored warmth, which was kept up by an extra flannel sock and roller.

12th. *Sac solid*; not the slightest thrill through the tumour, and a large collateral vessel running down the centre of its surface; slight numbness only of the limb; its temperature natural; compression continued for precaution's sake.

13th. At the evening visit last night, the patient was found smoking a cigar and intoxicated. His debauch, however, does not seem to have produced any ill effect. All pressure was removed to-day, a bandage having been fastened to the heel of his sock and to a belt round the waist, so as to check and prevent the sudden and complete extension of the limb during sleep.

The following remarks by Dr. Bellingham, who has been the ardent advocate of compression for the treatment of aneurism, are worthy of attention.

"The two cases which have been detailed," he remarks, "bring up the number of examples of popliteal and femoral aneurism successfully treated by compression, within the last five years, to thirty, in five of which the aneurism was seated in the femoral artery, in the remaining twenty-five in the popliteal vessel. Now, although a few cases may have occurred that have not been reported, it is obvious from the published cases that this mode of treatment has been, in a great measure, limited to Dublin. Thus from the London hospitals, only four cases have been reported, two by Mr. Liston, and two by Mr. Storks; five have been treated by military surgeons, including the two cases just read, this being the second which Staff-Surgeon Humphrey has treated since he has been stationed at the General Hospital, Phoenix Park; and two successful cases have been reported by naval surgeons; while all England, Scotland, and Ireland, with the exception of Dublin, have furnished within the same period but three other cases.

"It can hardly be that popliteal and femoral aneurism are so much more frequent here than elsewhere; but whatever may be the cause, it is obvious that if it be evidence of surgery having arrived at a more advanced state of perfection, where the necessity for operative proceedings is done away with, and a certain and safe method of treatment substituted for the knife (more particularly if the operation is one very perilous to life), then the surgery of aneurisms must be considered to have reached a higher state of perfection in Dublin than elsewhere, for during the last five years, but two cases of popliteal or femoral aneurism have been operated on in the hospitals in this city; and during the last three years at least, every case without exception has been treated by compression; and of twenty cases so treated, eighteen have been perfectly and permanently cured; of the remaining two, one, a patient of a broken-down constitution, died of erysipelas during the progress of the treatment; the other died of heart-disease shortly after the cessation of pulsation in the aneurism.

"It has been repeatedly and frequently urged against the treatment of aneurism by compression, that it is not only a much more tedious procedure than the ligature, but that it is also much more painful. There can be no doubt that if this method is undertaken by a surgeon who is ignorant of the manner in which compression effects the cure of aneurism,—who does not understand how to regulate the compressing force,—who is not aware of the degree of pressure necessary, or where to apply it most advantageously,—and who is not provided

with the proper instruments for making compression,—the treatment will prove both tedious and painful, and we cannot wonder that it should fail in such hands; and the few cases which have been put forward with the object of deterring surgeons from using compression, present a sad contrast in this respect to the two just detailed. In Mr. Humphrey's case, for instance, compression for thirty-three hours was sufficient to cure the disease; in five days, the patient was walking about, and in five more, he left the hospital, the use of the limb being perfect; a period at which, if the operation had been performed, and everything had gone on satisfactorily, the patient would still have been exposed to the risk of ulceration of the artery and secondary hemorrhage. In Mr. Tuffnell's case, in which the disease was of longer standing, the sac of a larger size, the patient of intemperate habits, having recently had the venereal disease, and the treatment conducted under all the disadvantages of a crowded lodging, where the regulation of the compressing instruments must have been left in a great measure to the patient himself, the treatment, notwithstanding, lasted only for six days, and the patient in that comparatively short period was perfectly cured of a painful and dangerous disease. I cannot help, therefore, saying that any surgeon, with such powerful evidence in favour of compression as these two cases afford, coupled with the previous evidence in its favour, who would expose his patient to the pain and risk of the operation in popliteal aneurism, or in femoral aneurism low down, would, to use a mild expression, be exceedingly culpable.

"There are one or two points connected with the foregoing cases worthy of further remark. The first is the relief from pain which the second patient experienced when the compressing instrument was applied, and the return of pain when the pressure was removed; evidently owing to the stretching and compression of the parts about the aneurism being taken off when the blood was prevented from entering the sac in a full stream; and showing that when an aneurism is large and produces much pain, compression really relieves this pain, and its application affords so much ease to the patient that he willingly maintains continuous pressure.

"The second is the occurrence of severe pain, and of an unusual character, in the parts about the aneurism at the period that the pulsation ceased. This fact has been frequently mentioned in the details of the cases of aneurism treated by compression hitherto recorded; it was very well marked in both the cases just read, particularly in the second.

"I am of opinion that this pain is caused by the *sudden* enlargement of the collateral vessels, which ensues when the artery is obliterated at the point from which the aneurism springs, by which the neighbouring parts are necessarily also compressed, particularly the nervous twigs which accompany these arterial branches; because this pain does not set in until immediately before the pulsation finally ceases in the aneurism; because at this period we first detect pulsation in the articular arteries or other anastomosing branches; and because this pain subsides of itself after a time, as the new circulation becomes fully established. That the collateral vessels about the knee do not enlarge in popliteal aneurism until the aneurismal sac is filled up, and the artery at the part is about to be obliterated, is proved by their pulsation being detected first at this period; yet if we consult works upon surgery, we should be led to suppose that nothing was more easy than to bring about the enlargement of the collateral vessels; indeed, compression was formerly recommended by writers on aneurism with this object, as a preliminary step to the operation, by which they supposed the chances of success of the operation would be increased. But as the writers of the period to which I allude had not clear ideas respecting the mode in which the ligature effects the cure of aneurism, and were entirely ignorant of the manner in which compression brings about this result, we may be excused for not admitting their conclusions respecting the enlargement of the collateral vessels.

"As there seems, however, to be still some misunderstanding or some difference of opinion with respect to the exact mode in which compression effects the cure of aneurism, I shall avail myself of the present opportunity to make a few observations upon this point.

"It is obvious, first, that whatever mode of treatment may be adopted, unless

the sac of an aneurism becomes completely impervious to the entrance of blood, the disease will not be cured.

"It is also obvious, secondly, that an aneurismal sac to be impervious to the entrance of blood, must become solid: that is, must be filled up with solid matter.

"Thirdly, an external aneurism to be perfectly and permanently cured, must not only become solid, but the artery at the point from which it springs must be obliterated.

"That these objects are fulfilled, as well when a cure is effected by compression upon the artery between the aneurism and the heart, as when the ligature is successfully used, or when the cure has been brought about by nature's unaided efforts, I shall now endeavour to prove.

"If we examine the sac of an aneurism where a spontaneous or natural cure has taken place, we find it filled with fibrin deposited in successive layers, the earliest or first formed being adherent to the interior of the sac, so as sometimes to appear almost to constitute part of its walls, and the succeeding layers in concentric laminæ, each within the other, until the cavity is perfectly filled. It is then completely impervious to the entrance of blood, and may be said to be cured, although the artery from which it springs preserves its channel unaltered.

"I had the opportunity of exhibiting to the society last winter an aneurism of the thoracic aorta, which had undergone a spontaneous cure probably many years previously, and which illustrated these points remarkably well.

"The consolidation of the sac being then the first and most essential step in the cure of an aneurism, and the deposition of fibrin in it being the process by which nature accomplishes this object, it is only reasonable to suppose that where artificial means are employed, they act by assisting nature in bringing about this result; we should therefore expect to find a similar condition of the parts after a cure by the ligature of the artery some distance above the sac, or after a cure by compression upon the artery between the aneurism and the heart; and this is exactly what we do observe.

"In the first case in which the femoral artery was tied for popliteal aneurism, the patient died of fever some months subsequently, and the opportunity was afforded for examining the condition of the parts; the sac was found to be solid, and filled with layers of fibrin. A drawing of the sac and of the artery is contained in the *Philosophical Transactions*, to which it was communicated by Sir E. Home. Many parallel cases are likewise scattered through the works of writers upon aneurism.

"A patient who had laboured under popliteal aneurism, and had been submitted to compression, but who died before the aneurism was cured, afforded me the opportunity of examining the condition of the parts. I found the sac of the aneurism in this case also nearly filled up by fibrin deposited in concentric laminæ. The preparation was exhibited to this society last winter, and is now in the museum of the college.

"Here, then, we have pathological evidence that the consolidation of the aneurismal sac is brought about in the same way, whether the disease be entirely left to nature, or whether it be assisted by art; and whether the artificial means used be the ligature or compression.

"Now, it is hardly necessary to observe, that in cases where a natural or spontaneous cure of aneurism takes place, the fibrin which fills the sac is deposited by the blood which circulated through it; there is no stagnation of the blood, no coagulation of it here; indeed the regular order in which the laminæ of fibrin are arranged, prove that they must have been deposited by a current of some kind. It is evident, therefore, that if, on examination of an aneurism, some time after its cure by the ligature, we find the sac filled with regular concentric laminæ of fibrin, a current of blood must have continued to pass through it subsequent to the employment of the ligature. It is equally evident also that if the same appearances are observed after the use of compression, a current of blood must in this case also have passed through the sac until it became filled and consolidated.

"The conclusions, then, to which we are necessarily led by the foregoing considerations are, that it is essential to the consolidation of an aneurismal sac that a current of blood should pass through it. Both the ligature and compression, therefore, would appear to act merely by assisting nature to accomplish, within a

comparatively short period, what otherwise would have occupied a long time, or which, owing to a number of disturbing circumstances, she might never have been able to accomplish.

"In order, however, that the cure of external aneurism should be permanent (no matter by what manner it is brought about), it is essential that, in addition to the consolidation of the sac, the *artery* itself should be obliterated at the point from which the aneurism springs. This is a point which has been in a great measure overlooked, and it is one of which we find no satisfactory explanation in works on aneurism.

"Thus in all the cases in which the opportunity has been afforded for examining the condition of the parts a long time after the employment of the ligature for popliteal aneurism, the artery has been found to be obliterated at the site of the aneurism as well as at the site of the ligature, while between these two points the channel of the artery is preserved. In the only instances in which the opportunity has been afforded for examining the condition of the parts some time after the cure by compression of popliteal and femoral aneurism, the artery was obliterated at the point from which the aneurism sprung, and only at this point. In the cases which have been detailed by the older writers, where external aneurism underwent a spontaneous cure, and where the parts were examined subsequently, the artery was also found to be obliterated at this point, and at this point only and the appearances were precisely similar to those found after the use of compression.

"These facts, then, render it still more probable that the mode in which compression and the ligature act in bringing about the cure, is the same as that by which nature accomplishes this object—viz., by the deposition of fibrin continuing after the consolidation of the sac, until the artery, at the point from which the aneurism springs, is also filled.

"It is still supposed by some surgeons that pressure upon the artery between an aneurism and the heart, acts by causing the *coagulation* of the contents of the sac. Now if, for argument's sake, we suppose that compression cures aneurism by developing a coagulum in the aneurismal sac, how are we to account for the obliteration of the artery at the point from which the aneurism springs? How are we to account for the disease never having returned in any of the cases successfully treated in this city? How explain the non-occurrence of suppuration in the sac in any of these cases?

"If, by means of compression upon the artery at the cardiac side of an aneurismal sac, we could coagulate its contents (which is highly improbable), the artery would not be obliterated at the point from which the aneurism sprung, pulsation would return in the sac, and the disease would reappear, or suppuration in the sac would be likely to ensue, the coagulated blood acting as a foreign body, and the frequent handling of the sac contributing to this result. The fact of the disease having been permanently cured in every case in which compression has been employed in this city affords evidence (even if we were without pathological proofs), that the coagulation of the contents of the sac was not the agent in effecting this; while the circumstances under which pulsation has returned after the employment of the ligature, or suppuration has ensued after the operation, confirm what I have already said.

"When either of the foregoing accidents follows the ligature, it generally depends upon the vessel having been tied so close to the aneurismal sac that the blood is completely cut off from it, no current passes through it, and no fibrinous layers can of course be deposited; the blood, which finds its way into the sac after the operation, coagulates there; consequently we can hardly be surprised at a secondary aneurism forming under such circumstances, or that suppuration in the sac should ensue if the tumour is much or frequently handled. In the majority of cases, the ligature being applied at some distance above the sac, the blood soon finds its way into it by the anastomosing vessels, a feeble current passes through it, the fibrin is detached and deposited upon its lining membrane, and the cure is eventually brought about exactly as when nature effects a spontaneous cure, or when compression has been used; the cure is necessarily permanent, too, for the reasons stated, and suppuration of the sac never ensues, because fibrin, unlike coagulated blood, does not act as a foreign body.

"I have delayed upon those points here because I find that some surgeons are of opinion that by using and keeping up strong pressure, they will bring about the coagulation of the contents of the sac, and they expect in this way to effect a cure with greater rapidity. If this object could be effected by compression, it must be by a different mode from that which has been hitherto used. To produce this effect, in fact, it seems to me that it would be necessary to apply the pressure to the artery immediately above and immediately below the sac, and to maintain this so as to prevent any disturbance of the contents of the sac until the blood contained in it coagulated. But even if this could be accomplished, it may be gathered from what I have said that it would not be at all desirable to do so, as the patient would be then liable to a return of the disease, or to the accidents to which I have alluded. When strong pressure is used, so as completely to interrupt the circulation in the artery at the part, it merely acts by permitting a very trifling stream of blood to pass through the sac; and whether the pressure be strong or moderate, the cure of the disease seems to be effected in the same way.

"As there is a great difference in different individuals in the sensibility to pain, we may of course use stronger pressure, and continue it for a longer period in one subject than another; and a cure will of course be more quickly accomplished in a patient who can bear continued pressure for a considerable time, than in one who is so little tolerant of pain that he removes the instrument, or relaxes the screw the moment the surgeon is out of sight; and this seems to be one of the circumstances which has most materially influenced the duration of treatment in the several cases hitherto recorded.

"The pathological evidence which has been adduced, combined with phenomena observed during the progress of the treatment of cases of aneurism, all tend to prove that the cure of the disease is effected in one and the same way, whether the ligature is used, whether compression is employed, or whether the cure is brought about by nature's unaided efforts. It may therefore induce surgeons to look with more favour upon compression as a mode of treatment, if they will bear in mind that, when they place a ligature upon an artery for aneurism, before a cure can take place, the artery of the limb must be obliterated at *two points* of its course—viz., at the site of the ligature and at the site of the aneurismal sac; and this must be accomplished within a comparatively short period, or secondary hemorrhage will ensue from the wound, or a secondary aneurism will form at the site of the sac. We can hardly be surprised, therefore, that so many accidents surround the operation, and the amount of success which has hitherto attended it only proves the unbounded powers of nature. Indeed, as the circulation of a limb must be with some difficulty maintained, when the artery which supplies it is obliterated at two points of its course, we cannot be surprised at gangrene supervening upon the operation in a case where the aneurism has been allowed to attain a very large size, by which the anastomosing vessels are compressed or prevented from enlarging, and by which the return of the venous blood from the parts below is interfered with.

"On the other hand, when compression is employed, the artery is eventually obliterated at one point only in its course: the treatment is altogether unattended by danger; there is no risk of secondary hemorrhage; none of the formation of a secondary aneurism: while it possesses this great advantage, that it can be intermitted and resumed according to the varying circumstances of each particular case."

30. *Oblique Fracture of the Femur immediately above the Condyles.*—Mr. JAMES SPENCE was sent for on the night of the 9th of July, 1845, to visit Mr. M—, who had been found lying insensible at the foot of a very steep stair, down which it was supposed he had fallen. On arriving at his house, he was found lying on a couch; the right thigh was fractured close above the knee-joint, and as the limb was imperfectly supported, the sharp point of the broken shaft of the femur was seen projecting, merely covered by the skin. There was great effusion around, and into the knee-joint, and the patella was found, after some manipulation, lying deeply seated towards the inner side of the projecting end of the shaft of the femur, and apparently locked between it and the condyles. By extension, the projecting portion was considerably reduced, and then the appearance of the limb when

viewed laterally was very similar to dislocation of the tibia backwards. On further examination, there was found a fracture of the neck of the humerus, and of the ribs on the same side, and several contused wounds of the head and face. After putting up the fracture of the humerus and bandaging the chest, the patient was placed in bed, and it was attempted to complete the reduction and co-adaptation of the fractured femur. Extension was made on the leg by two gentlemen, whilst counter-extension was kept up by means of a folded shawl applied as a perineal band by another party; but this attempt was ineffectual, as the projecting shaft seemed locked by the position of the patella. As the projection was to the outer side of that bone, extension was next made in an oblique direction in the axis of the broken shaft of the femur, and it was endeavored to disengage the bone from the muscles through which it had protruded, by bending the leg and thigh towards the pelvis; but these attempts were attended with but little further benefit to the position of the bone. The long splint was therefore applied to keep up what advantage had been gained by extension, and a large opiate, with occasional doses of camphor mixture, was ordered.

Next day, with Mr. Syme in consultation, further reduction was again attempted by extension, but ineffectually; the splint was therefore again applied. The patient, who had been very excitable before the accident, became gradually worse; delirium set in, antimonials combined with opiates were given, but could not be continued, owing to the state of the pulse: the camphor mixture and opiates somewhat relieved him and procured rest; but he gradually became worse and died on the 13th of July, the fourth day after the injury.

With some difficulty permission was obtained to examine the broken thigh and take a cast of it; but no further examination was permitted. On dissecting off the skin, the sharp point of the broken shaft of the femur was seen to have perforated the cruræus and vastus externus muscles, appearing immediately on the outer edge of the tendon of the rectus, which it had also perforated; it overlapped and pressed firmly upon the upper and outer edge of the patella, locking it against the condyles of the femur. The condyles and the lower fragment of the femur, together with the leg, were drawn backwards, upwards, and rather inwards; the sartorius and inner-hamstring muscles were very much relaxed. After taking the cast of the dissected limb, efforts were made to reduce the bone, but still in vain; the wound was then enlarged upwards in the axis of the bone, but without success, until the vastus was divided, together with a small part of the tendon of the rectus, in a transverse direction, when reduction was accomplished with the greatest ease. On this being done, the condyles separated, showing that they had been split up by the injury; and, on carrying the dissection further, the bone was found comminuted into numerous fragments.

Remarks.—The kind of fracture of which an example has been given is not of very frequent occurrence, and opportunities of examining the exact state of parts by dissection are very rare. Sir Astley Cooper, in his work on fractures, has given the history of two cases, and states, that he considers it “a most formidable injury from its consequence on the future form and use of the limb; for it is liable to terminate most unfortunately by producing deformity, and by preventing the flexion of the knee-joint.” He also gives an account of the dissection of a case of this kind of fracture which he had an opportunity of seeing in a body brought into the dissecting-room, and of which a plate is given in the large edition of his work. All the cases mentioned by Sir Astley, seem to have terminated unfavourably as regards the usefulness of the limb; and though he does not mention that there was any difficulty in reducing and replacing the bones, and seems rather to impute the bad result to the difficulty of keeping up extension, Mr. Spence was of opinion that the ordinary long splint would keep up the extension sufficiently, if the broken ends of the bone were fairly brought in apposition. From the state of parts found on dissection in the case related, as well as in the dissection given in Sir Astley’s work, there must, in most of these cases, be great difficulty in freeing the end of the shaft from the muscular fibres through which it has protruded. Although the projection may be considerably diminished by extension, there will, in cases where the bone has passed through the cruræus and vastus muscles, be a risk of muscular fibres intervening between the broken surfaces, and so preventing firm union. The position of the patella, also, firmly fixed to the inner side of

the projecting end of the shaft, and locked between it and the condyloid portion of the femur, serves to check extension and prevent the lower broken portion being brought into a line with the shaft. From the ease with which the bone was reduced after death, when the fibres of the muscles surrounding it were divided transversely, although it had previously resisted strong efforts at extension, and free longitudinal incision, the author, in similar circumstances, taking into account the usual unfortunate termination of such cases, considered himself warranted in dividing freely the muscular tissues surrounding the projecting bone by means of subcutaneous incisions, as any additional risk from such a proceeding would be more than compensated for by the advantage obtained from its facilitating the reduction and co-aptation of the broken bone. It will be noticed that in this case, when extension was effected, the condyloid portion of the femur was found split longitudinally. This must be of very frequent occurrence in such accidents when the bone is broken so low down as in the case just related, and when we consider the anatomical formation of the femur near the knee-joint. But it is a lesion which cannot be fairly ascertained so long as the other fracture is non-reduced, because the lower broken portion of the shaft presses the outer condyle against the inner, and so keeps them firmly locked together.—*Proceedings of Medico-Chirurgical Society of Edinburgh*, April 19th, in *Monthly Journal and Retros. of Medical Sciences*, May 1848.

31. *Case of Compound Fracture of the External Condyle of the Femur, laying open the Knee-joint, complicated with a simple Transverse Fracture of the Lower Third of the same Bone.* By W. P. BROOKES.—The subject of this injury was a lad, aged eleven years and a half. The accident occurred in 1845: whilst the boy was in the act of getting up behind a coach, he fell, and the left leg and thigh got entangled between the spokes of the hind-wheel whilst in motion. On examining the limb, the author found a compound fracture of the femur, extending obliquely downwards through the external condyle, which was movable with the lower portion, projecting through a wound in the popliteal space. The leg was twisted inwards, much hemorrhage had taken place, and the patient was in a state of collapse. On further examination, the capsular ligament was found to be lacerated, and synovia escaped,—the wound in the popliteal space being as large as a five-shilling piece. There was also a simple fracture of the lower third of the same thigh-bone. When the boy rallied, amputation was proposed and urged as the only chance of saving life; but the father refused to sanction the operation. The limb was therefore adjusted, and the natural position maintained, as well as the circumstances would admit of, by a straight splint, extending from the hip to the ankle, and a concave one on the inner side of the thigh. For some time the constitutional disturbance was very considerable, but gradually subsided. At the end of the sixth week the splints were removed, and the fractures were found to be firmly united. The lad has recovered the entire use of the limb, on which he can bear his whole weight, and can bend the knee-joint at right angles. There is no perceptible difference in length between the two limbs. The author concluded with some remarks upon the rarity of recovery after so severe an injury, and considered that the case he had narrated should act as a practical lesson to the surgeon to trust more to the *vis medicatrix naturæ*.—*Proceedings of Royal Med. and Chirurg. Society*, in *Lond. Med. Gaz.*, March 1848.

32. *Fracture of the Olecranon—new method of bringing the fragments into apposition.* By M. HERVEZ de Chégoin. The difficulty of maintaining the two portions of a fractured olecranon in contact, without keeping the forearm in a position which, if fixedly preserved, would render its functions useless after the time necessary for consolidation had elapsed, has caused the greater number of surgeons to be satisfied with a union as little mediate as possible, by preferring the semiflexed position of the limb to its complete extension, which, however, has been adopted by some with success. The case observed by M. Baudens is well known; and perhaps after a greater number of instances, this method will be more generally tried; perhaps, too, it is more easy to bend an arm which has been kept long extended than to extend one which has been long flexed, because the muscles of flexion are more powerful than their antagonists. But the utility of a bent forearm, and the

helplessness of an extended one, have till now given the preference to the semi-flexed position. In the meantime, I wish to make known a plan that I have recently adopted with the greatest success.

A woman, 65 years of age, of very spare habit, fell violently on the staircase, and fractured the left olecranon a little below its middle. I did not see her till the next day; there was then considerable swelling above and within the articulation down to the middle of the forearm; while the point corresponding to the fracture was scarcely swollen, and the skin then preserved its natural colour, which gave reason to suppose that the fracture, though caused by the fall, was the result not of direct violence, but of muscular action.

The fragments were separated by an interval of nearly half an inch; they were easily brought together by extension of the forearm and pressure on the upper portion, but an involuntary movement of flexion immediately separated them.

The contusion of the arm and forearm had been violent. The swelling and ecchymosis increased on the following days, and extended to the hand. The pain became more severe on the eighth day, and the cold lotions were exchanged for emollient poultices. The joint, however, remained free from this tumefaction, which confirmed my view of the manner in which the fracture had been produced, and allowed me to see what took place between the two fragments.

On the eighth day the interval between them was filled by a soft substance, which increased in quantity on the succeeding days, so as to rise above their level behind. It had become more liquid, and afforded an evident sense of fluctuation.

On the fifteenth day it was much reduced, and allowed the finger to be placed between the fragments. By this time the pain and swelling of the forearm had nearly disappeared, but the ecchymosis remained down to the wrist, with a degree of induration of the soft parts. The forearm till now had been kept on a pillow in the semiflexed position without any apparatus, of which the patient was singularly apprehensive from the recollection of what she had suffered from bandages too tightly applied for a fracture of the clavicle.

The object was now to bring the fragments together without exercising any compression, and at the same time to keep the forearm semiflexed. For this purpose I contrived the following apparatus:—I placed the limb in a hollow, jointed splint, deeply excavated behind so as to leave the posterior surface of the joint free. At the upper part of this hollow I fixed a piece of elastic gum, about two inches square and a third of an inch thick, by means of narrow tapes passed from within outwards through two holes made on each side. At the two inferior angles were fixed two other tapes, which I also passed from within outwards through two holes bored on each side of the lower margin of the excavated portion of the splint. I then applied the piece of elastic gum above the upper fragment, and by gently drawing the lower tapes, brought it easily into contact with the inferior fragment. Fearing, however, that this pressure might cause some pain, I loosened the tapes a little, satisfied that a slight but continued action would overcome the muscular resistance.

The fragments became gradually approximated, merely taking care to tighten the tapes according as they became relaxed, and at the end of six weeks were so close that the finger could scarcely detect the interval between them. About the thirtieth day I began to give a little passive motion to the joint; this caused a little pain, not in the joint, which all along was free from any inflammatory action, but in the soft parts of the forearm, which for a long time continued indurated by the blood infiltrated in their substance and beneath the integuments, which, after two months and a half had elapsed, retained the yellow hue of old contusions. The patient, however, could execute with facility the fullest movements of flexion and extension.—*Dub. Med. Press*, May 24, from *Gazette des Hôpitaux*.

33. *Cases of Ununited Fracture successfully treated.* By W. B. PAGE, Esq.—The first case narrated by the author was that of a young man, whose radius and ulna had been fractured thirty-four weeks, before the operation of excising the fractured extremities of the bones was had recourse to. He had suffered from other fractures at the same time, which had united soundly. The injured forearm was an inch and a half shorter than the sound one; the fracture of the bones was oblique, and the shortening resulted from overlapping of the extremities. The seat of

fracture was exposed by incisions over either bone on the posterior aspect of the forearm; and a curved director being passed beneath each fragment in succession, they were removed by means of a small Hey's saw, and with the assistance of cutting forceps. The forearm was then immovably fixed in an angular splint, in a position between pronation and supination. At the end of ten weeks, union was complete; and after the lapse of six months, the patient had almost entirely recovered the original use and strength of his arm. The second case was one of ununited fracture of the tibia and fibula. In this instance the cause of non-union appeared to have been the want of entire and sufficiently prolonged rest, which was accordingly resorted to for two months, but without a satisfactory result. The author then inserted two setons, one over the outer, the other over the inner, surface of the fractured bone; but the threads were removed in ten days, in consequence of the inflammation that ensued. In two months more, union was complete. In the third case the injury was likewise a fracture of both bones of the leg. Mal-treatment caused protrusion of the tibia, a portion of which was removed with a saw at the end of two months; and this operation was followed by repeated exfoliation from both tibia and fibula. In this way nine months elapsed before there was any attempt at union, when the patient came under the author's notice. His first care was to heal the wounds, and then to keep the limb at perfect rest for three months. Union was then complete. The fourth case was an illustration of non-union from want of proper nutriment. When this necessary adjunct to surgical assistance was supplied, the patient, a female, speedily recovered. In the fifth and last case, non-union of fractured tibia and fibula was accounted for by syphilitic taint in the system, which was corrected by the specific influence of mercury, and then union took place. The author concluded with some general remarks on the cause of non-union of fractured bones, as illustrated in the preceding cases, and by remarking that the serious operation of resection of the fractured ends is admissible only in a limited class of cases, such as that narrated in his paper.—*Proceedings of R. Med. C. Soc., in Lond. Med. Gaz., March 1848.*

34. *Diagnosis of Incomplete Fractures.*—M. DEBRON, relating a case of fissured fracture of the lower end of the femur, which was undetected during life, observes that while the obscurity of these cases, owing to the absence of crepitus and all the usual symptoms, renders detection difficult, it is very important for the patient that this should be effected; else he is not placed under restrictions in the movements of his limb, which are essential to his well-doing, inasmuch as incaution in this respect has led to the development of inflammation, which has terminated in death, or the loss of the limb. *Severe pain* at the seat of fracture, distinguishable from the more diffused, less fixed, and less intense pain of the accompanying contusion, is one of the best signs. If the indication furnished by this is overlooked or inappreciable, and the limb is not secured, another sign manifests itself, viz., *erysipelas arising at the very seat of fracture*, thus developing itself after the inflammation depending on the contusion had subsided. This erysipelas is accompanied, too, by an œdematous or pasty feeling of the part. The delay (perhaps several days) in the appearance of this form of erysipelas, arises from the inflammation first occurring among the soft parts around the bone, and spreading from within outwards (inversely to what it usually does), it being, in fact, but a symptom of the suppuration which is going on between the bone and the muscles.—*B. and F. Med. Chir. Rev., April 1848, from Archives Gén., tom. xvi.*

35. *On Petit's Operation for the Relief of Strangulated Hernia.* By JAMES LUKE, Esq.—The object of the author in this communication was to place before the profession the result of his experience in operating for strangulated hernia, without opening the sac. He remarked, that though experience was the only fair test by which the relative merits of this and the ordinary operation could be decided, the subject was encompassed by many obstacles, such as the impossibility of obtaining exactly parallel cases, the importance of not mixing the observations of different surgeons or judging from selected cases. To obviate these difficulties and sources of fallacy, the author has yielded up the whole of his experience on the subject of Petit's operation, which is the only mode of operating he has adopted since the year 1841, as an ordinary practice. Being unable to supply from his own case-

book the result of cases operated upon by opening the sac, the author appealed to the experience of others, referring especially to statistical details given by M. Textor, Mr. South, M. Malgaigne, and collected at the London Hospital, and from the British journals generally, which gave a return of mortality of from one-third to more than one-half. Where the taxis is successful, similar statistics prove that a fatal result is very rare. The conclusion which seems naturally to flow from these facts is, that operative interference should be deferred, and the taxis pursued as long as it offers any prospect of a successful issue—an inference, however, which the author considers to be fallacious and mischievous in its tendency, as involving a ripe source of procrastination, which in itself is the too frequent cause of non-success attending the operation. This assertion is borne out by statistical details of cases operated on at different periods, after the establishment of symptoms of strangulation. The author then proceeded to remark that the desideratum appeared to be, the introduction of an operation by which the taxis would be aided, but without incurring the risk attending the ordinary operation, by exposure of the contents of the hernial sac; and these objects he considered to be fulfilled by Petit's operation. Inclusive of selected cases occurring between 1831 and 1841, the author stated that he had attempted the performance of Petit's operation in eighty-two instances, which, with four exceptions, likewise comprised all the cases that had come under his care since 1841. Of this number the operation was completed, without opening the sac, in fifty-seven. In twenty-five it was necessary to open the sac to complete a reduction of the hernial contents—the opening varying in extent from half an inch to one inch and a quarter. With respect to the mortality amongst these patients,—of the fifty-seven in whom the sac remained unopened, seven died; of the twenty-five in whom the sac was opened, eight died. The author considered, however, that for statistical purposes it was preferable to exclude the selected cases (twenty-six in number), together with four other cases, of which three were considered moribund at the time the operation was performed, and the fourth died of secondary stricture six weeks afterwards. Of the remaining fifty-two cases, the sac was opened in twenty one, of which three died, and not opened in thirty one, of which two died. Of the cases in which the sac was opened, in ten the strangulation of the contents had existed, before the operation was performed, under twenty-four hours, of which number one died; in eight, above forty-eight hours, of which one died. Of the unopened cases, the strangulation had existed in thirteen under twenty-four hours, of which not one died; in eleven, under forty-six hours, of which one died. The author considered it important that the small size of the opening made into the sac, in the former class of cases, should be borne in mind, as it doubtless had an important influence in diminishing the ratio of mortality attached to this mode of operating. He then passed on to further details relating to the above cases, and the reasons for opening the sac, and stated that, of the fifty-two instances cited, twenty-nine were femoral, twenty inguinal, and three were umbilical hernia. He further pointed out the conclusion, from an analysis of the foregoing cases, that Petit's operation has proved *most* successful in the femoral form of hernia. In cases of inguinal hernia, the author limits his incision to a longitudinal division of the skin and fascia over the neck of the sac, of which cut the seat of stricture should be the centre. He then partially incises or scarifies the neck of the sac (if the seat of stricture, as it usually is), so as only partially to divide it, and so that it shall yield to the subsequent application of the taxis. In femoral hernia he considers it very desirable to avoid, as much as possible, interfering with the tumour in conducting the operation, and therefore recommends that a similar proceeding should be adopted—the centre of the perpendicular incision in this case being between the upper part of the tumour and the abdominal surface. Poupart's ligament is thus reached by carrying the finger from above downwards, and the stricture is divided on a director, introduced into the femoral ring. The operation advocated by the author is not considered by him to be so applicable in umbilical hernia, except where it is of small dimensions. The author concluded by noticing and combating the various objections which have been raised to Petit's operation, and by insisting on its value, apart from other considerations, as holding out inducement to surgeons to proceed with less delay to the performance of the operation, as he considered that procrastination, arising from the dread of having recourse to the

more severe operative interference ordinarily adopted, was in itself (as already remarked) a ripe cause of the mortality which unhappily has too generally attended these cases.

Of the patients who had died after the operation detailed, Mr. Luke stated that in the first case the patient died from exhaustion, four days after the operation. No symptoms of inflammation were present. The second case was one of umbilical hernia, in which the symptoms of strangulation did not subside, although there were unequivocal proofs that it was removed, as the bowels acted freely. In three cases the patients sunk so soon after the operation, that he could not say of what they died. The condition of the bowels was not examined into. In no case was there any sign of inflammation, either as the result of the operation, or of strangulation.—*Proceedings of the Roy. Med. Chirurg. Soc.*, Feb. 22, from *London Med. Gaz.*, March 1848.

36. *Operation for Strangulated Umbilical Hernia.* By G. B. CHILDS, Esq.—At the meeting of the Royal Medical Chirurgical Society (Feb. 23), a plan proposed by Mr. Gay was mentioned, in which the object of the operator is to get at the stricture without at all exposing the hernial tumour. Mr. Childs has since performed in the operation in accordance to this plan.

The hernial tumour, which was of two years' standing, had become strangulated on the evening of the 7th of March. It was at least eight inches in its longest diameter; lay principally to the left of the umbilicus, on the abdominal parietes, which it depressed to a depth that made the distance between them and the integuments very considerable; and obviously consisted of a large mass of omentum as well as intestine. An operation for its relief was immediately required, and that proposed by Mr. Gay adopted, on the grounds that, from its great size, the corpulency of the patient, and the extent of wound necessary for its performance in the ordinary way, hardly any but a fatal result could be anticipated from it.

The patient was first placed under the influence of chloroform, and then a wound through the integuments and superficial fascia, not more than an inch in length, was made on the right side, just beyond the edge of the hernial mass. The finger was directed through the wound, and after separating some few bands of cellular and other tissues, which feebly obstructed its course, the neck of the sac was reached at a depth of at least four inches. The umbilical ring forming the stricture, was then felt constricting the neck of the sac, to which it was adherent, by means of some strong bands. These were broken down with the finger, but not without some difficulty, owing to the great quantity of fat, and consequent depth of the wound. A director was then insinuated between the sac and the ring, guided by the finger, which still remained in the wound, and the stricture divided. After breaking down some further adhesions, the parts were liberated, and the contents of the sac immediately returned. The patient had her usual truss applied at once, and no bad symptoms occurred to prevent her complete recovery.

The usual fatality attending operations for umbilical hernia, would, in the prognosis of the present case, have excited grave doubts as to the result; had the old operation been adopted; and Mr. C. thinks that the simplicity of the principle upon which the new operation is based, the little difficulty in ordinary cases of practising it, and the lessened probability of its being followed by any severe symptoms, form very decided arguments in its favour.—*Lancet*, March 18, 1848.

37. *On the operation of Gastrotomy as applicable to cases of obstructed Œsophagus.* By Prof. SÉDILLOT.—The operation here proposed, consists in incising the abdominal parietes opposite the anterior wall of the stomach, making an opening into the latter, and connecting the edges of this opening with the external wound, so as to form an artificial fistula, by which sustenance may be administered in cases where irremediable obstruction of the natural passage exists. Such cases, if left alone, are quite desperate, their only possible termination being death by famine; and Sédillot, therefore, holds that it is justifiable to interfere by any means which offers a chance of safety. That the operation which he proposes is not impracticable, is proved by various cases (such as that of the celebrated Alexis St. Martin), in which a stomachal fistula occurred, as a consequence of accidental wounds; and also by the experiments of Blondlot on animals, in one of which he kept a dog in

health two years, nourishing him by means of an artificial fistula of the kind described. Experiments of this description have also been performed by Sédillot himself, with a successful result. With these facts before him, he argues, that, although gastrotomy ought not to be proposed where there is a probability of life being continued for some time without interference, yet in those in which death is evidently imminent, and where there is no other resource, the surgeon ought not to hesitate about giving his patient the chance of a prolonged existence, and freedom from suffering.

If this be admitted, it is evidently of great importance to keep in view those circumstances under which obstruction of the œsophagus might render such an operation necessary. The author, therefore, enters into an elaborate review of all those lesions of the œsophagus which lead to permanent constriction of the natural passage. He gathers from pathological writers a great variety of cases, which he arranges under fifteen heads, viz:—

1. Congenital absence of part of the œsophagus.
2. Stricture in consequence of tumours in the neighbourhood of the œsophagus.
3. Tumours formed between the tunics.
4. Hernia of the mucous membrane.
5. Polypi.
6. Stricture, by atrophy of the tube, without appreciable lesion of its walls.
7. Atresia, from cicatrices, with loss of substance.
8. Fibrous stricture.
9. Fibrous degeneration of the muscular coat.
10. Cartilaginous stricture.
11. Osseous transformation.
12. Complete obliteration.
13. Cancerous stricture.
14. Impermeable stricture of the cardia.
15. Fatal œsophageal stricture without known cause.

The cases to which the operation is applicable, as above enumerated, appear to be referable to two divisions; the first being those cases in which the operation is performed without hope of modifying thereby the original diseased condition, and merely to prevent death by hunger; the second, comprising cases in which the original condition is susceptible of modification, and where the establishment of a new passage to the stomach either assists the cure, or prevents the further progress of the disease. In this respect, the proposed operation has a close analogy in its mode of application to the more familiar one of tracheotomy.

The principal cases to which gastrotomy is applicable, according to Sédillot, with the double purpose above mentioned, are those comprised in the 4th, 7th, and 13th sections of his arrangement. In the 4th series, in which the mucous membrane is thrust through the other tunics, so as to form diverticula, he holds that the constant passage of the food distending these abnormal pouches is certain to keep up the morbid lesion, and, even by dilating the pouches still farther, to hasten the ultimate obliteration of the normal passage; whereas, if the operation of gastrotomy be performed, there is a probability that the pouch may, in time, contract and obliterate itself. In the 7th series, comprising all the wounds and inflammatory lesions of the œsophagus, in which there is hope that the judicious employment of catheterism might ultimately restore the tube to its function, Sédillot holds that gastrotomy will often permit us to continue this treatment when otherwise the death of the patient by inanition would have frustrated our efforts; and he believes that, in such cases, the chances of cure will often be greatly increased by the complete rest which is obtained in the intervals of treatment for the diseased portion. Finally, in the truly cancerous lesions, where the diagnosis can be ascertained with any degree of certainty, he conceives repose of the part to be of the first consequence, as both catheterism and the passage of food through the cancerous part, tend very much to the rapid progress and fatal issue of the disease; and he thinks, therefore, that gastrotomy may possibly be found to be applicable to cancerous cases at an earlier period than that at which death by inanition is imminent.

It is necessary to state, that the operation has never yet been performed by Sé-

dillot, although he so strongly advocates its performance — *Med. Journ. and Retrospect of Med. Sci.*, April 1848, from *Gazette Médicale de Paris*, Jan. 1847.

38. *On the Treatment of Strictures of the Œsophagus by Catheterism and Cauterization.*—M. GENDRON is of opinion that many strictures of the Œsophagus, which at first appear incurable, will be found to yield to careful and protracted treatment by the Œsophagus-bougie, with occasional use of cauterization. He objects to the treatment proposed by Sédillot (see last article) as being unpractical and hazardous. The use of the bougie, on the contrary, is in no way dangerous if due care be taken; and the objections of the patient to it are of short duration, as the Œsophagus becomes very soon accustomed to the stimulus of the instrument. So long as there is any obstruction, it is necessary to support and guide the bougie in its passage downwards, by means of two fingers of the left hand introduced into the pharynx. Dilatation occurs very gradually, and sometimes there appears to be a re-contraction, rendering it necessary to return to a smaller size of instrument after some progress has been made. The completeness of the cure is to be judged of chiefly according to two circumstances:—*First*, the ease with which a full-sized bougie can be passed, *using one hand only*; *second*, the disappearance of the tracheal rale, and unnatural quality of the voice, which almost invariably accompany an Œsophageal stricture.

M. Gendron alludes to four cases in which he has succeeded in curing tight strictures of the Œsophagus by the method here spoken of. Three of these were in consequence of diphtherite; one was without known exciting cause; one was not more than eighteen days under treatment; the rest from one to two months. Cauterization, by nitrate of silver, was employed in three of the cases; in two repeatedly; in the other, only twice. The elastic bougie, or the whale-bone staff with sponge, was used at short intervals; often several times in each day, but not so frequently after cauterization.—*Ibid.*, from *Ibid.*, No. 11.

39. *Fractured Patella—Subsequent Laceration of the Soft Parts, implicating the Joint.*—Dr. CROKER KING related the following example of this very rare accident, to the Surgical Society of Ireland (Nov. 20th, 1848).

The subject of it, a gentleman, was tripped by the rope of a canal boat, and, ineffectually endeavoring to regain his feet, he fell to the ground, from which he was unable to rise without assistance; this occurred on the 29th of Sept., 1846.

On examination a fortnight after the receipt of the injury, a transverse fracture of the right patella above its centre was apparent; the fragments were separated about three-fourths of an inch. The injury was treated in the usual manner; coaptation of the fragments was accurately maintained, but bony union did not take place.

On the 2d of March, 1847, five months from the receipt of the accident, the limb presented the following appearance:—The fragments had become separated to the extent of half an inch. The motions of the knee-joint were still considerably restricted, though it could be slightly bent. The patient could walk tolerably well without the assistance even of a stick. The joint measured thirteen inches and a half in circumference, the tape being carried round the joint at the seat of fracture.

On the following morning I received a hurried summons to visit this gentleman, who resided some distance from town. On my arrival I was informed that on the previous evening (while crossing the room), the knee had suddenly bent under him, that he suffered a severe shock, was sensible of something having given way, and that the knee had burst, and bled profusely.

On examination, an immense gash presented itself; it ran across the front of the joint corresponding to the interval between the fragments, which were now separated at least one inch and a quarter. The wound was half an inch wide and seven inches long, and consequently exceeded in extent half the circumference of the limb. The wound was occupied by coagula of blood, which had become hard and dry, fourteen hours having elapsed from the receipt of the injury.

I certainly felt much alarm for the safety of the limb on inspecting this formidable wound, as I did not see how the joint could have escaped being laid open. It was evidently the most judicious plan not in any way to disturb the dried coagula.

An attempt was made to approximate the edges of the wound. Such was found impracticable, as the skin was adherent to the separated fragments of the patella. The limb was placed on a hollow splint, and the integuments supported by broad strips of adhesive plaster to prevent the further retraction of the edges of the wound, and the entire was covered with light dressing.

In a few days severe constitutional disturbance supervened; the tongue furred; the pulse beat hard and frequent; and suppuration was freely established. On pressing the lower fragment, *it yielded*, and a copious discharge of purulent matter issued from the centre of the wound, and from the angles a transparent fluid, presenting all the appearances of synovia: the fever quickly assumed a hectic character.

A deep-seated abscess now formed on the inside of the limb, extending upwards for at least eight inches. The patient's countenance was expressive of much distress. The nights were passed with little sleep; and notwithstanding the exhibition of three grains of solid opium on the previous evening, the patient had enjoyed little rest, being constantly disturbed by pain and severe spasms extending up the limb; the pulse had risen to 120; the tongue was heavily coated, and the patient rapidly emaciating; there was, in addition, diarrhœa with bloody discharges, cutting pains in the abdomen, and night perspirations—in fact, the case was altogether as unpromising as it well could be, and the question of amputation as the only probable means of saving the patient's life of course suggested itself: however the liberation of the contents of this extensive abscess was first determined on. I made an incision an inch and a half long, four inches above the joint, and gave exit to ten ounces of most abominably fetid pus, mixed with clots of blood and sulphuretted hydrogen gas, which bubbled up through the matter—in fact, just such a discharge as we see in a suppurating hœmatocele. On the following day the matter having gravitated in considerable quantity and accumulated in the vicinity of the knee, I passed a director through the wound downwards to the most depending position, and, cutting on its extremity, thus made a counter opening. This great sinus being thus completely emptied, its walls were carefully and in the most accurate manner approximated by means of a circular bandage and well-adjusted compresses.

On visiting the patient on the following day, the change which had taken place in his general appearance was not a little remarkable. The haggard and fretted look had been replaced by a joyous expression. On inquiring how he felt, he replied “gaily;” he had, in fact, slept soundly; experienced no pain; the pulse had fallen to 80; the diarrhœa and night perspirations had ceased, and never returned; and what certainly surprised me, the walls of the sinus had become adherent at every point; there was not a single drop of discharge from the incisions, nor was there the slightest tension.

From this time the case progressed most favourably; the amount of discharge from the wound, which was a little tedious in healing, daily diminished, and cicatrization was complete on the 4th of April, thirty-three days from the receipt of the injury.

The cast which I exhibit was taken seven months subsequently. You observe a great transverse cicatrix corresponding to the wound, and two smaller perpendicular ones marking the site of the incisions. The fragments are at present two inches apart, and in the interval the external condyle of the femur is to be plainly seen and felt, apparently having no other covering but the integuments, and you may perceive that the transverse cicatrix runs *immediately* above the lower fragment.

The separation and the apparent total absence of ligamentous union between the fragments imperatively demanded some mechanical support to prevent a second yielding of the limb. I was enabled to obtain a very efficient apparatus from Mr. Millikin of Grafton-street. It consists of sole leather so prepared as to accurately mould itself on the irregularities of the joint. This gives complete support, and the gentleman is able to walk about without any other mechanical assistance.

Bell, in his *Operative Surgery*, mentions having observed a similar case. “I have seen,” he remarks, “a very terrible accident follow the imperfect cure of the fractured patella. The bone had united by ligament, and this ligament had

incorporated with the skin in such a manner that it lost much of its pliancy. The poor man was carrying a burden and fell backward, the knee sunk under him, and the whole forepart of the joint was laid open by laceration. The case terminated in amputation of the limb."—*Dublin Med. Press*, Dec. 8th, 1848.

40. *Catheterism*.—The apertures in the catheter sometimes during its introduction into the bladder become completely plugged with coagulated blood, *entirely preventing the flow* of urine through the instrument. The following suggestion for overcoming this difficulty, offered by Mr. W. N. SPRONG, (*Lancet*, June 9th, 1848,) it seems to us will prove highly useful. He proposes to introduce the pipe of a common syringe into the orifice of the catheter, and by drawing up briskly the piston, the blood, he says, will be drawn into the cylinder of the catheter when the urine will flow quickly.

41. *Tracheotomy in Tetanus*.—Dr. HUGHES stated at a meeting of the South London Medical Society, Feb. 3d, that lately tracheotomy had been performed for the relief of tetanus, from the belief entertained by some, that death occurred in many cases from spasmodic closure of the glottis, but it had entirely failed; showing clearly that this accident was not always the cause of death.—*Lond. Med. Gaz.*, Feb. 1848.

42. *Death from Air entering a Vein divided whilst inserting a Seton in the Neck*.—An accident of this kind has recently occurred at Barnes, near London. No blame could be attached to the operator.

OPHTHALMOLOGY.

43. *Painful Affection of the Eye cured by the Extraction of a Tooth*.—Dr. EMMERICH relates a case of this kind. A man consulted him on account of a painful affection of one of his eyes, which had lasted for nearly fourteen years, and occasioned him great suffering. There was considerable vascularity of the conjunctiva and sclerotica, especially around the cornea, which structure itself was somewhat opaque and spotted. There was a continued flow of tears, with pain and intolerance of light. All these symptoms were greatly aggravated by any indiscretion in diet, and the use of the slightest stimulus, such as a single glass of wine. All kinds of remedies had been in vain tried, at different times, and the affection seemed incurable. On examining the upper jaw, Dr. Emmerich found a carious molar tooth on the side corresponding to that of the affected eye; the portion of jaw around this tooth was painful, and very sensitive to the touch. The patient thought that the pain in his jaw had begun about the same time that the affection of the eye commenced. The tooth was drawn, and almost immediately afterwards the symptoms relating to the eye began to subside, and soon entirely disappeared. The suffering in the eye was evidently the result of sympathy between the second and third branches of the fifth pair of nerves.—*Dub. Med. Press*, April 19th, from *Henle and Pfeuffer's Zeitschrift*, 1847.

44. *The Eye naturally adapted for Distant Vision*.—VOLKMANN and HUECK both agree in considering that, in its quiescent state, the eye is adapted to the vision of objects situated at the furthest point of distinct sight, and not, as has been generally supposed, of those situated about midway between this and the point of distinct vision nearest to the eye. In this case, therefore, in order to accommodate itself to the vision of an object placed at any distance within the furthest point of sight, the eye will require but one act, that, namely, of increasing its focal distance in proportion to the nearness of the object under view: no act will be requisite to adapt it to the perception of distant objects, for, in reverting to its state of rest, it at once resumes its capacity for distant vision, and retains it so long as its quiescent state continues. In proof of this opinion Volkmann observes that, in a state of rest, the axes of the eyes are directed towards a point even considerably beyond the most distant point of distinct vision, and that, since changes in the position of

the axes usually correspond with changes in the adaptation of the eyes, it is improbable that the meeting of the axes beyond the most distant point of vision should coincide with an adaptation of the eyes for an object on this side the point. According to Hueck, this view will also explain the distinct formation of the image of distant objects on the retina after death; as also the far-sightedness induced by the action of hyoscyamus and of belladonna.—*Lond. Med. Gaz.*, May 1848, from *Baly and Kirke's Recent Advances in Physiology*.

MIDWIFERY.

45. *Disorders of the Nervous System during Pregnancy*.—Dr. LEVER, in an interesting paper on this subject in the fifth volume of *Guy's Hospital Reports*, lays down the following propositions as the results of his observation:—

1. That pregnancy is occasionally associated with chorea, or convulsive movements; with paralysis of various parts of the body, of the extremities, and of the nerves of special sense; and with mania.

2. That the varying symptoms of such complications may be produced at any period of pregnancy; but when produced, although modified by treatment, are rarely removed during the existence of gravidity.

3. That the patients in whom these complications exist, are women of a highly nervous temperament, of great irritability, or whose constitutional powers have been reduced by some long-continued but serious cause of exhaustion.

4. That in the treatment of such cases, heroic measures are not to be employed; that the curative means consist in improving the secretions, keeping the bowels free, and administering those medicines, and employing that diet, which will increase the tone and energy of the nervous system.

Lastly, That although, in most instances, the symptoms will continue as long as pregnancy exists; yet in the majority of cases we are not justified in inducing a premature evacuation of the uterine contents.

46. *Inflammation and Abscesses of the Uterine Appendages, (Ovaries, Fallopian Tubes, and Cellular Tissue.)* By Dr. HENRY BENNETT.—During the last thirty years, the subject of pelvic abscess, considered generally, has been much studied by French pathologists—by Menière, Andral, Grisolle, Marchal (de Calvi,) &c. In our own country it has received comparatively little attention, if we except the valuable articles of Dr. Doherty and Dr. Churchill, in the *Dublin Medical Journal*, and the recent article of Dr. Lever, in "*Guy's Hospital Reports*." By all these authors this disease is considered as all but characteristic of the puerperal state, and as very seldom occurring under other circumstances. This, the universal view of the profession with respect to the pathology of inflammation and abscess of the uterine appendages, the author considers is very far from being a true interpretation of the facts. In reality, the disease is not at all uncommon in the non-puerperal state, only it is not recognized, being confounded either with acute metritis, chronic metritis, iliac abscess, or some other pelvic lesion. The principal difference that exists between the puerperal and non-puerperal forms of inflammation is the following:—In the former, owing, probably, to the increased quantity of fibrin contained in the blood, there is a great tendency to inflammation. Hence, if the structures contained in the lateral ligaments are attacked with inflammation, the tendency of the latter to invade the peritoneal folds themselves, and the surrounding tissues, gives rise to the formation of large pelvic inflammatory tumours, abdominal adhesions, and perforations, often ending in death. In the non-puerperal state; on the contrary, inflammation of the uterine appendages seldom extends to the peritoneum, and the purulent formations nearly always escape, in a latent manner, by the rectum or vagina. In this form of inflammation of the organs contained within the folds of the lateral ligaments, the element most frequently attacked is the cellular tissue which separates the peritoneal folds, and surrounds the ovaries, round ligaments, and Fallopian tubes. It may be produced by any cause which exaggerates the vitality of the uterine system. The author has seen it occur frequently from ulcerative diseases of the cervix, or from a severe fall.

The inflammatory tumefaction to which it gives rise may be attended with sufficient swelling to be recognized by pressure over the abdominal parietes; but an accurate diagnosis can only be formed by examination per vaginam. It may terminate by resolution, but more generally by suppuration, and the discharge of pus by the rectum, vagina or bladder, or by perforation of the abdominal parietes. When this takes place, however, the disease is not brought to a close, but during a longer or shorter period the patient continues to discharge pus in a latent manner, and to suffer from the symptoms of chronic uterine or pelvic disease. After giving this description of the disease in question, the author briefly alludes to the treatment, which, he observes, must be merely that of phlegmonous inflammation, carried out in accordance with the laws of therapeutics. The length of the paper precluded him from illustrating his account by cases, although he had seen many of great interest. He detailed, however, the heads of one which he had attended during the last year.

In the acute stage of inflammation of the lateral ligaments, the treatment ought to be the same as that adopted in phlegmonous inflammation generally. Only the necessity of resorting to active antiphlogistic measures—bleeding, leeches, cathartics, mercurials, &c.—was even more urgent than in the ordinary forms of phlegmonous disease, owing to the disastrous consequences that generally follow suppuration in this region. In acute metritis, also, the disease with which inflammation of the lateral ligaments in the non-puerperal form is the most frequently confounded, there is infinitely less tendency to suppuration, and it is not, consequently, of such paramount importance to overcome the inflammation within the first few days of its manifestation. Hence the great importance of an accurate diagnosis. When once we are acquainted with the real nature of the disease, we know what to expect, and can act accordingly. What he relied on the most, however, was the repeated application of leeches, within short intervals, on the abdominal parietes, just over the seat of the inflammation. In the acute stages, unfortunately, leeches could not well be applied internally, owing to the extreme sensibility of the vagina, and uterine system generally, which precluded the use of instruments. In the chronic stage, however, it became possible to use specula, and thus apply them internally. When this could be done, their application was attended with the greatest benefit. In this period of the disease, vaginal injections were often of great use; it was necessary, also, to enforce complete rest, and such general treatment should be adopted as was most calculated to strengthen the patient, and to improve the state of the economy in general.—*Proceedings of Royal Med. Chirurg. Soc.*, Jan. 26, in *Lond. Med. Gaz.*, Feb. 1848.

47. *Post-Puerperal Metritis.* By MM. CHOMEL and WILLEMIN.—Under this term M. Chomel has been long in the habit of describing a form of metritis, which does not manifest itself shortly after labour, as is the case with ordinary metritis, but at a period varying from eight to thirty days; the principal cause of its production being the resumption of the occupations of life prematurely, before the uterus has regained its normal volume. This organ becomes, under the influence of the metritis, much re-enlarged, while the os uteri is sensitive to the touch, tumid, irregular, and often lacerated. The treatment consists in baths and cataplasms, and laxatives in slight cases, bleeding where the pain and general symptoms require it, and afterwards local resolvents or exutories for the lessening the enlarged uterus.

Dr. Willemin has furnished a very good essay upon this subject. He prefers the term *simple idiopathic puerperal metritis*, inasmuch as it occasionally presents itself at a much earlier period than is understood by the term *post-puerperal*; but it is always quite distinct from that form of metritis connected with pyogenic disease. According to the analysis given of ten cases, it is shown that symptoms occurring in some of these may be wanting in others. Thus there are (1) cases in which pain, fever, and anormal volume are present. In others (2) there are pain and increased size, but no general reaction. 3. Neither pain nor fever is present, but there is anormal volume, with sanguinolent lochia, and, in some cases, deep laceration of the os uteri. 4. The rarest form occurs when there is absence of fever and enlargement, while there are pain and sanguinolent lochia. Any of these forms may, and frequently do, become complicated with inflammation of the sur-

rounding cellular tissue of the pelvis, producing iliac phlegmon. The disease is generally, but not always, more acute in proportion as the time elapsed since the labour is short. The neck of the uterus is found to be changed in position, or not to have resumed its normal state; but the author has not observed the sensitiveness described by others. He is disposed to attach much importance to the deep *laceration* of this part observed in 4 out of 10 of his cases, and easily recognizable in one of them twenty days after labour. The sanguinolent character of the lochia is a symptom to be remarked, and when *iliac phlegmon* complicates the disease, it occurs usually on the right side only. Bleeding, linseed cataplasms, and emollient glysters relieve the acute symptoms; and local applications, with, above all things, rest, suffice for the subacute form. For the iliac phlegmon, M. Rayer employs with great advantage, first, a general bleeding and purgatives, and then a large flying blister. If fever persists, he repeats the bleeding, and covers the whole hypogastric region successively with blisters.—*Br. and Fr. Med. Chir. Rev.*, April 1848, from *Arch. Générales*, vols. xv. and xvi.

48. *Vomiting in Pregnancy*.—M. TROUSSEAU, in one of his recent clinical lectures, took the opportunity of stating the great advantage he had seen accrue from the mode of treating obstinate and dangerous vomiting during pregnancy, adopted some years since by M. Bretonneau. It first occurred to that practitioner, owing to the fact of his patient suffering from violent uterine pain, for the relief of which, believing the vomiting to depend upon its presence, he ordered a *belladonna* lotion to be applied to the hypogastric region, and with the effect of removing both the pain and the vomiting. In subsequent cases the remedy proved as efficacious, although no pain was felt; and he explained its operation upon the supposition that the vomiting was then sympathetic of irritation of certain of the nerves of the ganglionic system only, produced by the enlargement of the uterus. However this may be, many others have adopted the practice with like success.—*Ibid.*, from *Gazette des Hôpitaux*, No. 1, 1848.

49. *Intra-uterine Peritonitis in the Fœtus*.—Dr. SIMPSON showed to the Edinburgh Obstetrical Society (Feb. 9th), the body of a new-born infant which had died a few days before birth of acute peritonitis, as evidenced by quantities of coagulable lymph effused upon various parts of the surface of the peritoneum, and more particularly on the surfaces of the spleen and liver. Dr. Simpson stated that, 1st. Acute and fatal peritonitis appeared to be a very common inflammatory disease in the fœtus in the latter months of utero-gestation. 2d. A large number of fœtuses dying in the seventh and eighth month of utero-gestation, presented, as he had found on dissection, well-marked anatomical evidence of it, in the presence of effusions of coagulable lymph, adhesions between the folds of intestines, pus, &c. 3d. The child was sometimes, though rarely, born alive, and affected with it. 4th. Far more commonly the child is born dead, and the previous history of the mother shows that it had perished from one to three weeks before its expulsion, its movements having ceased about that time. 5th. Before the child's movements entirely ceased, the mother very generally remarks that its movements are morbid and excessive for fifty or sixty hours previously—probably during the currency of the fatal disease. 6th. Peritonitis is occasionally apt to recur in successive children in the same mother, and seems in some a result and remnant of the syphilitic poison in the parents. 7th. But in most cases its occurrence is independent of syphilis, and occasionally it will not attack successive children in the same mother, or even both children in cases of twins. In an essay on the disease, published some years ago in the *Edinburgh Medical and Surgical Journal*, vol. i. p. 392, Dr. Simpson had described a case of twins, in which one was born living and healthy; the other was dead, and within the abdomen were found all the usual appearances following intra-uterine peritonitis. Whilst intra-uterine peritonitis was very common, intra-uterine pleuritis was very rare; Dr. Simpson had only seen two well-marked cases of it in the fœtus.—*Monthly Journ. and Retrospect. Med. Sci.*, May 1848.

50. *Case of Double Cephalæmatoma*.—Prof. SIMPSON showed to the Edinburgh Obstetrical Society, a child two weeks old, with a well-marked, large, and defined

cephalhæmatomatous swelling on each parietal bone, with the hard rim well marked at different points. He had never seen it on both sides except in this case. In this, as in most other cases, the tumours had not been observed till the first washing of the child, having come on, or at least grown greatly for some hours after birth. The effused blood was already becoming absorbed, and, by leaving the case entirely to nature, a cure would soon be effected. The effusion was between the skull and pericranium. He had watched various cases during the process of a natural cure, and he several times found that a layer of bone is formed on the inner surface of the separated pericranium, which can sometimes be distinctly felt after a time to crackle under the finger like parchment,—and, as the fluid gets absorbed, the two plates of bone gradually approximate and come together. Dr. S. believed that such cases were often mistaken and mistreated, by too active measures being employed. He had now had an opportunity of seeing a number of cases of cephalhæmatoma, and had never seen any treatment required but time and patience. The difficulty in their management generally, consisted in keeping the friends and others from doing something or other to them, when nothing, in reality, was required.—*Ibid.*, April 1848.

51. *Maternal and Infantile Mortality in the Dublin Lying-in Hospital.* By Dr. CLAY.—The Dublin Lying-in Hospital was founded by Dr. Moss in 1757; from that period down to 1847, it has been under the charge of fourteen different physicians, or masters, as they are termed, who generally have held this important and lucrative appointment for seven years each. The following table shows the number of women delivered during each mastership, and the proportion of mothers and of children lost under the charge of the different successive physicians of the hospital. The per-centages present, says Dr. Clay, “an almost undeviating uniformity,” eighty or ninety years ago the mortality under the two first masters, Dr. Moss and Sir Fielding Ould, being nearly precisely the same as since 1833 under the two last masters, Dr. Kennedy and Dr. Johnson.

Table of the Maternal and Infantile Mortality of the Dublin Lying-in Hospital, under different Masters.

Name of Master.	Number of Deliveries.	Number of Mothers lost.	Number of Children lost.
Dr. Moss, . .	915	14; or 1 in 65	46; or 1 in 20
Sir F. Ould, .	3,800	49; or 1 in 77	197; or 1 in 19
Dr. Cullum, .	4,724	65; or 1 in 73	258; or 1 in 18
Dr. Jebb, . .	5,903	63; or 1 in 93	269; or 1 in 22
Dr. Rock, . .	7,088	54; or 1 in 131	411; or 1 in 17
Dr. Clarke, .	10,787	124; or 1 in 87	580; or 1 in 19
Dr. Evory, . .	11,357	86; or 1 in 132	600; or 1 in 19
Dr. Kelly, . .	14,790	163; or 1 in 90	974; or 1 in 15
Dr. Hopkins, .	18,727	217; or 1 in 86	1063; or 1 in 17
Dr. Labatt, .	21,867	309; or 1 in 70	1535; or 1 in 14
Dr. Pentland, .	12,885	198; or 1 in 65	827; or 1 in 15
Dr. Collins, . .	16,391	158; or 1 in 103	1017; or 1 in 16
Dr. Kennedy, .	13,167	224; or 1 in 58	651; or 1 in 20
Dr. Johnson, .	13,699	179; or 1 in 76	863; or 1 in 16
Total, . .	156,100	1903; or 1 in 81	9291; or 1 in 17

The 156,100 women delivered in the hospital have given birth to 82,267 boys, and 76,169 girls, or the proportion of male to female births has been as 12 to 11; twins occurred 2400 times, or in the proportion of 1 in 65 of the deliveries; there were 32 triplet cases, and 1 case of quadruplets.

In the Registrar-General's returns we have the proportion of maternal deaths in childbed in England and Wales published from 1839 to 1842. During these four years 2,024,774 women were delivered, and 11,598 of them died. Hence, the proportion of mothers dying in childbed during these years in England and

Wales, was 1 in every 174 deliveries. It is, however, to be recollected, that always and everywhere the results of private practice are more favourable than those of hospital practice.—*Ibid.*, May 1848, from *British Record of Obstetric Med.*, for April 1848.

ANÆSTHETIC AGENTS.

52. *Varieties of Anæsthesia, &c.*—M. BEAU, Physician to the Hôtel-Dieu, has been engaged lately in pursuing some investigations into the history of anæsthesia or loss of sensibility. The following abstract conveys some of the chief results arrived at by that physician. He first points out that anæsthesia itself has two forms; one, where the feeling of contact, as well as that of pain, is wanting; the other, where the sensation of pain only is wanting, the contact of any body being felt. The first of these two varieties affects only portions of the body, and is very rare; the latter is much more frequent, less grave, and although it may pervade the entire surface, yet oftener is more marked in the extremities, and especially in the arm and forearm. The anæsthesia of pain, moreover, is sometimes not limited to the skin, but extends to the mucous membrane, particularly to such portions of it as are normally endowed with high sensibility, such as those covering the eye, the nose, pharynx, &c.

Each of these varieties is met with in cases of poisoning from lead, and either in company or separately. When the two are conjoined, the case is more severe and of longer duration; when there is only loss of pain, recovery will happen, under proper treatment, in six days; but when with this there is also anæsthesia of touch, it is not until twelve or fifteen days have elapsed that the patient regains his healthy condition. The return of sensibility is the more rapid the less the duration of the malady, and the younger the patient. In considering the return of sensation, it must be borne in mind that the patient, though insensible to pain artificially produced, is highly sensitive to what, as opposed to that, may be called constitutional pain, such as colic and gouty pain.

That anæsthesia exists in the Protean-like disorder, hysteria, is known by experience to all practitioners. One patient will be sensible only to temperature, or appreciate the dryness or humidity of bodies; another will feel only their form, and be insensible to pain; the latter is by no means uncommon.

Hypochondriasis is another malady, in which, from the abnormal state of the nervous system, pain is unfelt, although the contact of bodies is perceived by the sentient surface.

The anæsthesia in hysteria and hypochondriasis may be attributed to the simply disordered condition of the nervous centres, whilst that in lead poisoning is connected with the direct action of the noxious mineral upon the nerve matter.

Examples of the loss of sensibility are further seen in delirium after accidents and operations, where the wounded parts seem to be moved about with impunity of suffering; also in certain forms of insanity; and lastly, in persons who have wrought their minds to a pitch of enthusiasm. But it is only in the three first-mentioned disorders that the occurrence of anæsthesia presents any constancy or regularity.—*Lancet*, May 20, 1848.

53. *Physiological Action of Chloroform.*—M. AMUSSAT (*Comptes Rendus*, 29th Nov 1847), is of opinion that the insensibility or anæsthesia produced by the inhalation of ether, is due to an alteration in the qualities of the arterial blood, and that the degree of insensibility is in direct ratio to the extent of this alteration. In the details of the present series of experiments, he states that on immersing the beak of a pigeon in a vessel containing chloroform, the bird fell down in 55 seconds, and became insensible. On withdrawing the apparatus it speedily recovered, and in two minutes flew away. In another experiment, in which Simpson's apparatus was used, a pigeon became insensible in one minute, but was immediately restored on holding a flask of ammonia under its bill. On wrapping a cloth soaked in chloroform around a rabbit's mouth and nose, the animal became insensible in three minutes. In another similar experiment, insensibility was induced in

two minutes. In a third experiment, in which Simpson's apparatus was employed, insensibility resulted also in two minutes; the animal, indeed, was supposed to be dead, but the application of ammonia to its nose speedily restored it. In another experiment, the rabbit's head was placed in a glass vessel containing about 16 grains of chloroform at the bottom; free access of air between the sides of the glass and the animal's head was thus obtained. In two minutes the animal sank down, and insensibility speedily followed. On repeating this experiment with a double quantity of ether instead of chloroform, the animal sank down in three minutes; but the effects were much less powerful than with chloroform. Dogs became insensible in two minutes by inhaling chloroform from a sponge. In one experiment with a dog whose crural vessels and nerves were laid bare, the colour of the arterial blood became dark, like that of the vein, after one minute's inhalation; and insensibility then ensued. On stopping the inhalation, the vessels resumed their ordinary colour. In another experiment of the same kind, the arterial blood assumed a brown colour in $2\frac{1}{2}$ minutes.

The observations which M. Amussat makes on cases in which chloroform was employed in the human subject are interesting only in so far as they demonstrate the more speedy production of complete insensibility by this fluid than in ether; and in showing that chloroform produces the same effect as ether on arterial blood, converting its colour and aspect into those of venous blood. He has never observed any injurious consequences to result from the employment of chloroform.

From experiments performed upon himself and upon many other individuals, M. GERDY* finds:—

1. That chloroform, like ether, produces cough; but that its employment is in this respect tolerated better than ether.

2. Applied to the nose and mouth by means of a sponge, it sometimes cauterizes the parts it touches; but this appears to depend on the chloroform being badly prepared. In such cases an inhaling apparatus should be employed instead of a sponge dipped in the liquid.

3. The sugary taste which it produces is most perceived towards the isthmus faucium, the base of the tongue, the velum and anterior arches of the palate, and in the pharynx. That the taste is perceived in the pharynx may be proved by inhaling the vapour only through the nose. The fact is physiologically interesting, in showing that the pharynx possesses the faculty of perceiving the flavour of chloroform when reduced to vapour. And it is so much the more remarkable, inasmuch as in its liquid state chloroform causes so much irritation when applied to the tongue that this organ is unable to perceive its taste.

4. Chloroform causes an increased flow of saliva, though in a less degree than ether.

5. Chloroform more readily produces an inclination to vomit than ether: the latter is, therefore, preferred by some individuals.

6. The numbness caused by chloroform often ensues more speedily than that produced by ether, though not invariably.

M. JOBERT† has furnished the details of cases in which this new anæsthetic agent was employed with complete success. In one case amputation was performed at the thigh for diseased knee-joint. Before commencing inhalation the pulse was 104, but when complete insensibility ensued (which it did in 1 minute 30 seconds), it fell to 72. No cough was excited by the inhalation, and respiration continued unimpeded during the continuance of the insensibility. The operation was performed without the least consciousness of pain, and at the conclusion of it, the patient roused up suddenly as from a profound sleep. The blood had lost somewhat of its ordinary bright tint, but was not so deeply coloured as is observed to be the case after the inhalation of ether. In another case the operation of cataract by depression was performed with equally satisfactory results; complete insensibility and unconsciousness having been induced. The other two cases, which were quite successful, contain nothing else worthy of note.

In an extract from a Memoir on the employment of Chloroform, M. SÉDILLOR‡ mentions the effects produced by this fluid on three of his pupils and one of his

* Comptes Rendus, p. 803.

† Op. cit., p. 806.

‡ Loc. cit., p. 802.

colleagues. In one, all power of movement was lost in 1 minute 30 seconds; in another, in 2 minutes; in the third, in 5 minutes; and in the fourth, in 6 minutes. In each, consciousness of what was passing around, was retained. They also perceived when they were touched, but it seemed to them as if they were enveloped in a kind of atmosphere of insensibility towards pain. The power of motion and free exercise of the mind was not regained so speedily as after the inhalation of ether; the period being from 15 to 20 minutes in two of the individuals.

In a subsequent memoir,* M. Sédillot remarks that more extended observations prove still more satisfactorily that chloroform, as Dr. Simpson says, possesses great advantages over ether, and will, most probably, quite replace it. The effects are usually more speedy in their onset, and more persistent in their duration. It is also employed with greater facility; the odour is agreeable to the patients; it produces no cough, or sense of heat in the chest. During the insensibility the patients usually snore as in ordinary sleep. The pulse and respiration are usually a little accelerated. Another advantage of this fluid over ether is, that it is not exposed to the risk of exploding, like ether, when used by candle or lamp-light.

More recently, some remarks have been published on the subject by M. Roux,† who speaks strongly in favour of this new agent for the alleviation of pain. He prefers sponge as the substance into which the chloroform for inhalation should be poured. He observes, that in all the cases he has seen, the anæsthesia was induced more speedily by chloroform than by ether. Complete insensibility ensued in from half a minute to a minute, or rather more. And there is economy of material as well as of time, for forty-six to sixty grains are usually sufficient for the purpose. In none of the cases which fell under his observation did the patients express any disrelish, or experience any of the symptoms of bronchial irritation which almost invariably attended the early inspirations of ether. In none was the state of insensibility accompanied by delirium or extraordinary hallucinations; neither was headache or any other uneasiness, which sometimes remains after the use of ether, ever complained of. Although the length of time during which the insensibility and anæsthesia continued varied in different cases, yet it would seem as if the duration of the effect was greater or less according as the impression was induced with less or greater rapidity. It is remarkable that when the patients awake out of the state of insensibility they do so at once, and not gradually. The patient does not always remain in a tranquil state when under the influence of chloroform, but is sometimes very restless; in one case it was almost impossible to restrain the movements of the patient so as to operate; occasionally they are exceedingly loquacious.

In allusion to the above observations of M. Roux, M. VELPEAU‡ remarked that he had witnessed almost similar results from the employment of chloroform. In the experiments which he had witnessed, insensibility was induced by chloroform in from half a minute to 1, 2, 3, or more minutes; while ether usually requires from 5 to 10 minutes to produce its full effect; and the insensibility is less complete, and lasts for a shorter time with ether than with chloroform. M. Velpeau also recommends a sponge as the best apparatus for inhalation. During the same sitting of the Academy, M. DuRoi also added his testimony to the efficacy of this new agent.

M. BOYER§ speaks of the advantages of employing chloroform in operations about the eye. Having operated for strabismus and cataract on several dogs while under the influence of it, he states that the eye during the whole time remained quite motionless.

M. BLANCHET|| remarks that, inasmuch as the colour of arterial blood is always more or less altered in persons or animals under the influence of the vapour of chloroform, it would be desirable, in cases where the inhalation has been carried too far, to act upon the kind of asphyxia produced, by the inhalation of a mixture of gases richer in oxygen than the air of the atmosphere is: he says that such a view is substantiated by the results of his experiments on animals.—*London Med. Gaz.*, Feb. 1848.

* Comptes Rendus, 6 Décembre.

† Loc. cit., p. 890.

‡ Loc. cit., 20 Décembre.

§ Op. cit., 13 Décembre, p. 887.

§ Loc. cit., p. 903.

54. *Narcotism from Inhalation of Vapours.*—Dr. SNOW, in a paper read before the Westminster Medical Society, April 29th, 1848, related the result of a great number of experiments that he had performed on animals, for the purpose of determining the proportion of various vapours in the blood in the different stages of insensibility. He had ascertained that the quantity of vapour in the blood, necessary for causing any particular degree of narcotism, bore a constant relation to the quantity that the blood would dissolve, and that this relation was the same with respect to the different substances that he had examined, including chloroform, ether, bisulphuret of carbon, and others. For producing the second degree of narcotism, in which there were loss of consciousness, and impairment of voluntary motion, one fifty-sixth part of what the blood would dissolve was sufficient; and for producing the fourth degree, or that state in which all motion of the voluntary muscles was completely abolished, one twenty-eighth part was required. The experiments for determining these points consisted in ascertaining the smallest quantity of vapour, in proportion to the air, which would suffice to induce a given effect, and were performed in the following manner:—A small quantity of the liquid to be examined was weighed, and put into a very large glass jar, carefully closed, and when the vapour was equally diffused, a small animal—generally a bird or a mouse—was introduced, which was allowed to remain for a short time after the effects of the vapour had ceased to increase. At the point at which the effects became stationary, the tension of the vapour in the blood balanced the tension of that in the air in the lungs, at the temperature of the body, which being already known, the quantity in the blood could be calculated. The results obtained agreed with experience as to those vapours which had been administered to patients. Chloroform required about 288 parts of serum of the blood to dissolve it; and taking M. Valentin's calculation, that the human body contains, on an average, about twenty-six pounds of serum, it was found that twenty-four minims was the twenty-eighth part of the quantity the blood would take up—the quantity, consequently, for producing complete insensibility. When allowance was made for the vapour, which reached no further than the trachea, and was therefore not absorbed, this agreed with experience. The quantity of ether required was found by calculation to be considerably larger, on account of its much greater solubility; and these experiments showed the cause of the rule he had stated on another occasion, that the more soluble a volatile substance was, the greater was the quantity required to produce a given effect; and that, consequently, when the volatility was taken into account, the strength of this class of substances was in the inverse ratio of their solubility. He considered that the vapour of these substances did not become decomposed, or enter into any chemical combinations in the body, but produced its effect by its mere presence, impeding those combinations between the oxygen in the arterial blood and the nervous tissues, on which the functions of the nervous system depend.—*Lancet*, May 13, 1848.

55. *Action of Chloroform on the System.*—FRANCIS SIBSON, Esq., in an interesting paper in the *London Med. Gaz.*, Feb. 1848, remarks:—"Chloroform, ether, and alcohol, are closely allied, both as anæsthetic agents and as narcotic poisons. In small repeated doses they produce agreeable exhilaration and pleasing hallucinations. A friend informs me that he has frequently produced, by merely inhaling chloroform from a bottle, the most delightful thrill over his whole frame. These narcotics, carried by the blood into every capillary, excite simultaneously every part of the frame. The action on the capillaries themselves is universal; they enlarge and are distended with blood, which now circulates through capillaries previously invisible. The conjunctiva becomes injected, and the lips and cheeks are turgid. The secretions are consequently increased, the eyes become watery, and saliva collects in the mouth; while the visible capillaries are turgid, the capillaries in the brain, the lungs, and other viscera, are turgid likewise.

"Turgidity of the capillaries is an effect characterizing the narcotic poisons. Alston observed this in frogs poisoned by opium. I dipped the limb of a frog into a watery infusion of opium; all the capillaries of the limb were soon injected with blood. Mr. Nunnely has noticed the remarkable reddening from the distension of the capillaries produced by prussic acid. Stramonium, hyoscyamus, and belladonna, often excite universal redness of the skin. The experiments of Mr. Wak-

ley show that ether and chloroform cause distension of the capillaries in the lungs and other internal organs.

"The action of chloroform, ether, and alcohol, pervades the whole frame. In the first stage the excitability of every organ and fibre is exalted, but throughout, their marked action is upon the brain. Exhilaration is followed by excitement, excitement by cerebral disturbance. At this stage the person affected revels in the absurdities of social intoxication: consciousness still exists, but it is deranged. The mind is intent in its own way on many things, but does not now observe all personal realities. The mind often at this stage does not feel pain, simply because it is intently taken up with other things, just as a man in battle often does not feel a wound. This stage of deranged consciousness is also that of staggering intoxication, the muscular power and control being enfeebled, and sensation blunted.

"This stage of cerebral excitement and disturbance is speedily followed by the stage of cerebral sleep. There is unconsciousness, but not coma; the person sometimes can be roused, the eye turns up as in sleep, and the iris contracts. Now in all persons free from cerebral disease the pupils contract during sleep. I have opened the eyes of many sleepers, and, the brain being sound, I invariably found the pupils contracted. The sounder the sleep the smaller the pupil. In all persons the pupil dilates as soon as they awake, and if their sleep be sound the dilatation is gradual."

"Under the influence of ether and chloroform," he further observes, "the pupils first contract, then oscillate between contraction and dilatation, and finally dilate. So long as the pupil is contracted a dreamy state often exists, and the patient, when operated upon, frequently manifests an unremembered consciousness; he is, in fact, in the state of sopor. When the pupils dilate, and the iris is immovable, consciousness is extinguished, and the patient is in the state of coma."

The stages of the increasing influence of chloroform, ether, and alcohol, are, according to Mr. Sibson:—

"Cerebral excitement.

"Cerebral derangement; staggering intoxication.

"Cerebral sleep (sopor); pupils contracted; dreams; reflex functions of brain and spinal marrow still active.

"Cerebral death (coma); reflex functions of medulla and spinal marrow still active.

"Death of spinal marrow; cessation of respiration (heart's action still generally present).

"Cessation of heart's action.

"It is very important to be able to tell easily when the stage of safety, sopor, is about to emerge into that of danger—coma. The action of the pupils is the key to this knowledge. Chloroformization ought not to be continued one instant after the pupils, previously contracted, have begun to dilate. If unconsciousness can be secured by sopor, the inhalation should not be carried on to produce coma.

"If complete muscular relaxation be sought for, as in hernia to facilitate taxis, in dislocation to make reduction easy, and in tetanus, then it will be needful in general to urge the patient from sopor into coma, but as soon as the muscular relaxation is secured the inhalation should cease.

"When chloroform or ether is employed in chorea, delirium tremens, or other affections, it should never be urged beyond sopor. In neuralgia it is not usually needful to produce unconsciousness. Whenever the pain disappears the inhalation ought to cease.

"Dr. Snow has made this important observation, that the effects of chloroform and ether increase after the administration of it has ceased: this he calls the cumulative property of those vapours. This increase of effect he has observed to last for twenty seconds. Mr. Wakley, in his experiments, observed the same thing. I observed this effect the other day in a woman whose lip was extensively pared under the influence of chloroform. I gave up the employment during sopor, the pupils being still contracted; and in a few seconds coma supervened, the pupils being permanently dilated.

"On this ground, Dr. Snow objects to rapid chloroformization. He conceives that the complete effect ought not to be gained in less than two minutes. I own I cannot see how a slow, but effective administration of the vapour, can lessen

the danger arising from the still increasing effect after the administration has ceased. The longer the inhalation is continued, the greater the total amount of chloroform received into the system; and this chloroform, already circulating in the blood, will still, I conceive, under either circumstance of quick or slow inhalation, continue to produce an increased effect. Indeed, in the case in which I observed this action, the inhalation had been carried on with intermission some minutes. In another case, in which unconsciousness was produced quickly, the pupil, which had been dilated during one or two seconds, contracted immediately after the cessation of the inhalation.

"I think, with my friend Mr. Fearn, that it is important to dilute the chloroform vapour largely with air during the first few inhalations, so as to avoid the sudden shock on the nerves of the lungs, and accustom them to its presence."

56. *Mode of Administering Chloroform.*—Prof. SIMPSON states that he believes, in surgery the symptom most to be relied upon as indicating a thoroughly anæsthetic state, was slowness of respiration, or a degree of snoring, or stertorous breathing. After the appearance of this symptom, it is only needful to continue the inhalation, from time to time, by intermissions; and, by repeated applications of the handkerchief, the patient ought to be kept in the same sopor during the whole of the operation. In midwifery, Dr. S. believed that this deep degree of anæsthesia was, in ordinary circumstances, not required. He had found that, when administered so as to cause stertorous breathing, the uterine contractions generally ceased, and did not return till the effect had, in some degree, passed off. He had found, therefore, that the chloroform given in a surgical dose was very useful whenever he wished to stop the uterine contractions, as in cases where turning was necessary, and many other obstetric operations. In cases of natural labour, he generally began with a large dose of chloroform, so as to bring the woman at once completely under its influence. This mode of proceeding prevents the chance of any excitement; and, although it occasionally may stop the pains for a few minutes, especially if the labour is still in an early stage, yet the contractions recur as soon as the deeper state wears off, which it usually does in two or three minutes. The depth of the sopor is allowed to diminish by merely withholding the handkerchief till a pain comes on; and then the anæsthetic state is kept up by its reapplication, for two or three inspirations every four or five minutes; or what is better, with each succeeding pain. The patient should be kept unconscious, but not deeply so, till the head was passing the vulva, when a deeper anæsthesia was required.—*Proceedings of Edinburgh Obstetrical Society, in Monthly J. and R. Med. Sci., April 1848.*

57. *Notes on the Anæsthetic Effects of Hydrocarbon, Nitrate of Ethyle, Benzin, Aldehyde, and Bisulphuret of Carbon.* By J. Y. SIMPSON, M. D.—*Chloride of Hydrocarbon, or Dutch liquid*, as it is often termed in consequence of it being first discovered by the Dutch chemists of the last century, is one of the various fluids to which the name of *chloric ether* was for some time given.

When equal parts of olefiant gas and chlorine are mixed together, the two gases rapidly disappear, and produce a colourless oily liquid, of a peculiar sweetish taste and ethereal odour. Its specific gravity is 1.247. It boils at 148°. It is composed of four atoms of carbon, four of hydrogen, and two of chlorine. Hence its formula is $C_4H_4Cl_2$.

When its vapour is inhaled, the chloride of hydrocarbon causes so great irritation of the throat, that few can persevere in breathing it for such a length of time as to induce anæsthesia. I have latterly, however, seen it inhaled perseveringly until this state, with all its usual phenomena, followed; and without excitement of the pulse, or subsequent headache. When I myself attempted to inhale the chloride of hydrocarbon, it produced an extreme degree of acrid irritation in the throat, which did not disappear entirely for many hours afterwards.

Nitrate of Ethyle.—When two parts of alcohol, and one part of pure nitric acid, are distilled together, with the addition of a small quantity of urea, *nitrate of ethyle*, or, more properly, *nitrate of oxide of ethyle*, is produced. It is a transparent colourless liquid, with a sweet taste, and very agreeable odour. Its specific gravity is 1.112; it boils at 185°. It is a compound of four proportions carbon, five of hy-

drogen, six of oxygen, and one of nitrogen; and its formula is, $(C_4H_5) O, NO_5$; or AcO, NO_5 .

Nitrate of ethyle is easy and pleasant to inhale, and possesses very rapid and powerful anæsthetic properties. A small quantity, such as fifty or sixty drops, when sprinkled on a handkerchief and inhaled, produces insensibility after a few inspirations. But during the brief period which elapses before the state of complete anæsthesia is induced, the sensations of noise and fulness in the head are in general excessive; and much headache and giddiness have usually followed its employment, and persisted for some time.

Benzin or *benzole* was first discovered by Faraday, as one of the products in his experiments on compressing oil gas, and was designated by him *bicarburet of hydrogen*. Mitscherlich afterwards obtained it by distilling, at a high temperature, benzoic acid with an excess of slaked lime.

It is a clear colourless liquid, of a peculiar ethereal odour; with a specific gravity of 0.85; and boils at 186° . It is believed to be composed of two proportions of carbon and one of hydrogen. Its formula is, C_2H ; or perhaps, more properly, $C_{12}H_6$. It is polymeric with the hypothetic radical formyle.

In my experiments with benzin I found it capable of producing anæsthesia; but the ringing and noises in the head accompanying and following its inhalation, were so excessive, and almost intolerable in the case of myself and others, as to seem to us to render its practical applications impossible, even had there been no other objections to its use. Latterly, Dr. Snow has tried its employment upon some patients for tooth-drawing; and in one instance of amputation. In this last case it produced convulsive tremors.—*Lancet*, Feb. 12, 1848.

Aldehyde, or *hydrate of oxide of acetylene*, was first noticed by Dæbereiner in distilling together sulphuric acid, alcohol, and peroxide of manganese; but it was left for Liebig to fix and determine everything about its chemical nature. It is a colourless limpid liquid, of specific gravity 0.791. It is very volatile, boiling at 72° . It spontaneously changes when long kept, and is converted into two substances, a solid and a fluid, metaldehyde and elaldehyde. Liebig found it to be composed of four atoms of carbon, four atoms of hydrogen, and two of oxygen; and its formula is $C_4H_4O + aq$.

Professor Poggiale, of Paris, has lately made some experiments with dogs on the inhalation of the vapour of aldehyde, and from these has concluded that its anæsthetic effects will be found more prompt and energetic than those of sulphuric ether or chloroform. It certainly possesses, like some of the preceding agents, well-marked anæsthetic properties; but it assuredly will never come into use, as very few will be found capable of inhaling a sufficient dose of its vapour. In fact, out of five of us that attempted to inhale aldehyde, very carefully prepared and purified, four were driven to suspend the respiration of it in consequence of the coughing and insufferable feelings of dyspnoea which it immediately induced. The sensations of difficult respiration and constriction in the chest which the vapour produced, resembled precisely those of a severe fit of spasmodic asthma. In the fifth case, the experimentalist, after perseveringly breathing the aldehyde for a minute or two, became entirely insensible; the state of anæsthesia lasted for two or three minutes; during it, the pulse became excessively small and feeble. On recovering, the bronchial constriction and coughing, which had disappeared as the anæsthesia was induced, returned immediately, and was annoying for some time.

Bisulphuret of carbon, or *alcohol of sulphur* (as it was at first termed), was accidentally discovered in 1796 by Lampadius, when experimenting on iron pyrites. Different opinions of its composition were held by different chemists; but Berzelius and Marcet, in 1813, at last fully confirmed the previous idea of Clement and Desormes, Vauquelin, &c., that it consisted only of sulphur and carbon. It is composed of two atoms of the former to one of the latter; consequently its formula is CS_2 .

The most easy method of procuring it is by transmitting the vapour of sulphur over fragments of charcoal heated to redness in a closed porcelain or iron tube. The resulting bisulphuret of carbon, when purified by distillation, is a clear, colourless liquid, of a pungent taste. Its specific gravity is 1.272. It is very volatile, boiling at 108° .

It has been stated in various literary journals, that bisulphuret of carbon has lately been used as an anæsthetic agent at Christiana; but no particulars regarding its employment in Norway have, as far as I know, been yet published.

I have breathed the vapour of bisulphuret of carbon, and exhibited it to about twenty other individuals, and it is certainly a very rapid and powerful anæsthetic. One or two stated that they found it even more pleasant than chloroform; but in several it produced depressing and disagreeable visions, and was followed for some hours by headache and giddiness, even when given only in small doses. In one instance I exhibited it, with Mr. Miller's permission, to a patient, from whom he removed a tumour of the mamma. It very speedily produced a full anæsthetic effect; but it was difficult to regulate it during the operation. The patient was restless in the latter part of it; but felt nothing. Like several others when under it, her eyes remained wide open. After the operation she was extremely sick, with much and long-continued headache; and, for fifty or sixty hours subsequently, her pulse was high and rapid, without rigor or symptoms of fever.

I tried its effects in a case of midwifery, in presence of Dr. Weir, Dr. Duncan, Mr. Norris, and a number of the pupils of the Maternity Hospital. It was employed at intervals during three quarters of an hour. The patient was easily brought under its influence, a few inspirations sufficing for that purpose; but it was found altogether impossible to produce by it the kind of continuous sleep attending the use of chloroform. Its action was so strong, that when given, as a pain threatened or commenced, it immediately affected the power of the uterine contractions, so as often to suspend them; and yet its effects were so transient that the state of anæsthesia had generally passed off within a minute or two afterwards. The patient anxiously asked for it at the commencement of each pain. During its use she was occasionally sick, and vomited several times. Latterly her respiration became rapid, and her pulse rose extremely high. I then changed the inhalation for chloroform, and, under it, the patient slept quietly on for twenty minutes, when the child was born. During these twenty minutes there was no more sickness or vomiting, and the pulse gradually sunk down to its natural standard; and a few minutes after the child was expelled, and while the mother still slept, her pulse was counted at 80. Next day the mother and infant were both well, and she has made a good recovery.

While these experiments prove the strong anæsthetic properties of bisulphuret of carbon, they at the same time show its disadvantages. I have not alluded to another strong drawback upon its use, viz., its very unpleasant odour. "It has (says Dr. Gregory) a peculiarly offensive smell of putrid cabbage."—(*Outlines of Chemistry*, p. 130.) By dissolving various essential oils in the bisulphuret I tried to overcome this disagreeable defect, but without much success.

None of the five anæsthetics which I have mentioned in the present communication are, I believe, comparable with chloroform or sulphuric ether, either in their manageableness or in their effects. And the after consequences which all of them tend to leave, are too severe and too frequent to admit of their introduction into practice. They are more interesting physiologically than therapeutically.—*Month. Journ. and Rel. of the Med. Sciences*, April 1848.

58. *Reckless Employment of Chloroform in a case of Delirium Tremens.*—[The following case affords an example of the reckless use of chloroform which can hardly be too strongly reprobated. The patient fortunately escaped. Had the result been different, and the case been submitted to a jury of intelligent men, they would, we conceive, have had little difficulty as to a verdict.]

The patient was labouring under a third attack of the disease, and as he had been cured in the two previous instances with opium and morphia, the narrator states, "I had recourse to the same at this time also, and I almost night and day, for two days and two nights, continued giving him small repeated doses, and increasing it as much as I durst venture. There was no appearance of sleep for nearly three days and nights, but all the symptoms were aggravated. He became quite unmanageable, and required two or three persons to keep him in bed. The whole body, especially the hands, were in a constant tremor; cold clammy sweats bedewed his skin, and the phantoms which assembled around his bed to disturb

his rest were innumerable. As he had occasionally slight convulsive fits, I was afraid to go on any further with the opium. I determined to try the chloroform, although I did not consider him a very good subject for it. I procured an ounce from a large medical establishment in the city, where I was sure I would get it genuine.

"I began by pouring ten to twenty drops on a handkerchief, and holding it over his mouth and nose, and always renewing it when required. He became furious after breathing it about two minutes, and struck and attempted to bite me, when I was obliged to desist until I got his hands secured, and a strong man in the bed to secure him. I then went on for nearly half an hour, always pouring on a little more occasionally, and he talking incessantly, and endeavouring to disentangle himself and get up. At last he began to snore occasionally for a minute, his eyes became fixed and staring, the pupils much contracted; slight convulsions came on, and began to increase to such a degree that I was obliged to take the handkerchief from his face, and allow him to breathe the free air. He soon recovered, and began again to get furious. I was anxious to persevere as long as I could with safety. I repeated the drops, and applied chloroform again; and, when nearly a whole hour had elapsed, and my hand scarcely three minutes from his face, holding the handkerchief the whole time, the convulsions commenced again, and colligative sweats were now pouring over his face, which was quite cold to the feel. I got alarmed, and gave up the experiment. During the hour he had inhaled rather more than zvi. of the chloroform. He soon recovered from the bad symptoms, but it was now late in the evening, and my patience was exhausted. I therefore thought I would leave him until the morning. There remained in the bottle rather more than a drachm of the chloroform. I told his keeper just to put a few drops on the handkerchief occasionally, and keep it to his nose until he got it all. I called in the morning: he had become very quiet and dull after I left him, and a few hours afterwards had fallen sound asleep. He was sleeping when I called. I felt his pulse, but did not wake him: his pulse was good, 72. On the next morning I found that he had slept well, and he asked me whether it was the opium or the chloroform which had set him asleep. He recovered very rapidly, and was soon able to resume his usual avocations."—*Lond. Med. Gaz.*, March 1848.

59. *Use of Chloroform in Tetanus.*—Mr. R. L. BAKER (*Prov. Med. and Surg. Journ.*, May 31) administered chloroform in a case of tetanus supervening on the fifth day after an injury of a finger, in which the first phalanx was torn off. The spasms were relaxed under the effects of the remedy, which was kept up for three quarters of an hour. The patient continued to improve for eight days, at the end of which, as there was a threatening of return of the tetanic symptoms, Mr. B. amputated the finger, and the patient at the date of the report was rapidly recovering.

Dr. C. A. WORTHINGTON of Lowestoft, relates (*Prov. Med. and Surg. Journ.*, April 19) a case of acute traumatic tetanus in a boy 17 years of age, in which the chloroform was administered with striking relief. But the spasms returned and the case terminated fatally, though the remedy was industriously persevered in.

60. *Chloroform in Neuralgia.*—Mr. SIBSON relates (*Lond. Med. Gaz.*, March 31, 1848) six cases of facial neuralgia, in which he administered chloroform. In five, pain speedily gave way, but in two unpleasant effects were produced. In one, sickness, giddiness, and some headache; in the other there was great aggravation of headache, deafness, increased cough, &c.

Mr. MOFFIT has also used it (*Lond. Med. Gaz.*) twice in a case of severe neuralgia of the neck, and on both occasions it brought on severe hysterical fits and vomiting to a great degree, which made it necessary to desist. The pain was not in the least relieved, and the patient felt worse in every respect for several days.

61. *Chloroform in Dysmenorrhœa.*—Dr. J. HENRY BENNET (*Lancet*, Feb. 19, 1848) states, that he has found the chloroform a valuable therapeutic agent in dysmenorrhœa.

[In one case of very severe and intractable dysmenorrhœa in which its use was resorted to at our suggestion, it produced such distressing effects that the practitioner who administered it could not be tempted, he informs us, to try it again.]

62. *Chloroform in Midwifery Practice.*—Dr. NEVINS, in a paper read before the Liverpool Medical Society, states that he has reports of about eighty cases of labour under the influence of this agent, the general result of which was highly favourable. No case of death has reached him in which this termination could be attributed with any fairness to it. One woman had died of puerperal fever on the third day after its employment, and a second patient had also died about the same date with sloughing of the os uteri and interior of the uterus, after the application of the short forceps; but he had ascertained that at the same time one or two cases of puerperal fever had occurred in the practice of surgeons who had used chloroform, and erysipelas was also prevalent in the town at the same time. Now it has been often observed, that when the latter disease is prevalent, cases of puerperal fever were also met with; and there was, therefore, no presumption that the occurrence of the fever had any connection with the employment of the chloroform. Another patient had been affected with œdema of the epiglottis, commencing about twenty-four hours after labour, in which she had cried out a good deal prior to the exhibition of the chloroform, but not so much as many women in ordinary labour. Here, then, a presumption might arise that the œdema was owing to the inhalation, but further experience was necessary to confirm or disprove it. Another patient began to rave violently after the inhalation, but she had been previously much excited by the number of persons around her, (students and others,) who had questioned her frequently while preparing for its administration, and when just beginning to be under its influence: she ultimately did well. Another young woman with her first child, to whom ether was given, which was afterwards ascertained not to have been of the full strength, had severe convulsions, beginning about ten hours after labour was completed. By bleeding and the common treatment she was cured in the ordinary length of time.

With these exceptions, no untoward circumstances had occurred after the use of the chloroform; and it was evident that any connection, except that of time, between some of these and its employment was very doubtful.

The general description of the labours was, that the patients accomplished them in the usual time, but without the fatigue of ordinary parturition, and that they were entirely free from the exhaustion so commonly experienced afterwards: they expressed themselves as if the labour had scarcely been of any consequence, and the recoveries, with the above exceptions, were all described as "unusually quick and favourable." In many, perhaps most cases, the after-pains were decidedly less than usual, or than they had been in previous labours. In several, however, they were as severe as usual, in none more so. If administered prior to the dilatation of the os uteri, no particular effect was noticed upon it; but when the vagina was hot, dry, and swollen, as in some of the cases, it generally became soft and moist almost immediately. In about one-third of the cases the uterine contractions were decidedly enfeebled, and the intervals lengthened; but so much relaxation of the soft passages was produced at the same time, that, with one or two exceptions, the labour was not reported as having been prolonged beyond what might have been anticipated had chloroform not been used. In nearly every instance the abdominal muscles acted in concert with each uterine contraction, and the legs were generally stretched out at the same time, and the patients often uttered a low moan during each pain, but without being subsequently conscious of having suffered. In many cases they were aware of the passage of the child's head over the perineum, but it was unaccompanied with pain. The placenta was expelled as usual, and there was less hemorrhage than common in most of the reports; our experience, therefore, is so far decidedly in favour of the safety and utility of its employment. In one case it was continued at intervals for sixteen hours and a half, in another for eleven and a half, and in others for varying periods down to ten minutes, just during the passage of the head over the perineum.—*Lond. Med. Gaz.*, March 1848.

63. *Injurious Effects of Chloroform.*—Dr. NEVINS, in a paper read before the Liverpool Medical Society, on the 3d of Feb. last, "on the present state of our knowledge with respect to the use and effects of chloroform," states that he has received private communications up to that date from several of the London hospitals, from Edinburgh, the Liverpool hospitals, and from Leeds and Birmingham,

the York Lunatic Asylum and Retreat, the Wakefield Asylum, Dr. Conolly, Dr. Churchill, and other private sources, besides the cases recorded in the public journals; and, from the candid tone of the letters, and the particulars contained in them, he thought the Society might consider itself in possession of the unfavourable effects and results of this agent, as well as its favourable ones. He should, however, chiefly dwell upon the former, as they were the most important at present towards obtaining a full knowledge of its properties; the reports in the journals having fully proved that it may be advantageously administered in many instances, and having confirmed the utility of its employment in most of the cases in which ether has hitherto been used.

Vomiting.—Amongst the immediate effects produced by its administration, vomiting was frequently present. It often seemed dependent upon the food having been recently taken; but in several instances neither food nor drink had been swallowed for several hours previously. It was, however, very important to attend to this particular, as in several cases chloroform had produced no effect whatever when inhaled even in large quantities immediately after a full meal.

Headache was another not unfrequent result, though the contrary had often been stated. In some cases this continued for several hours, and in one instance it had not entirely disappeared after some days. It was principally, if not entirely, confined to the forehead.

Convulsions were very frequent, and he used the term "very" advisedly, because they had been often reported to him. In one or two reports it was said, "Nearly all the patients operated upon were more or less convulsed;" and in some instances this had rendered the operation almost impracticable. In a case of tying the brachial artery, the muscles of the arm were so violently affected that the vessel could scarcely be gained, and the accompanying veins were so swollen and turgid as to obscure it even when exposed—rendering the operation very unsatisfactory. In another case—an operation upon the perinæum—the urethra and other parts were so forcibly and suddenly retracted several times as to remove them from the control of the operator; and in a third case—one of lithotomy—it required the vigorous efforts of four persons to hold the patient on the table even after being tied up in the proper position. Several other cases had been mentioned; and, though he could not give an accurate statistical report, he thought about one patient in six or eight was affected with them more or less severely. In many cases they were accompanied by frothing at the mouth, whilst in others they resembled common hysterical symptoms. One important caution to be learnt from this was, never to attempt any operation more severe than tooth-drawing without having an assistant at hand. He had lately been prevented from completing an operation satisfactorily, by the patient starting up in the middle of it, in a state of excitement almost resembling that produced by laughing-gas, and, before he could be replaced on the sofa, the effects of the chloroform had quite gone off, and the operation was finished whilst the patient was conscious. He was not aware that he had started up or exhibited any degree of violence. It was sometimes supposed that convulsions only occurred before the full effect of the chloroform had been produced; but in many of the reports it was distinctly specified that "the patient was fully under its influence," and this had been the case in his own instance. It was fortunate, however, that these convulsions scarcely ever commenced *during* the operation: they were always manifested as soon as the agent began to take effect, if they were present at all; and therefore a surgeon was not liable to be betrayed into commencing an operation during their absence, and being interrupted by their subsequent appearance. If they were so severe as to interfere with the operation, he had nothing to do but to wait till the effects of the chloroform had gone off, and then his patient was in no less favourable a state than if he had simply not known of or used that agent; and he might remark, that not a single instance had been reported to him, or publicly recorded, in which any permanently injurious effects had resulted from these convulsions. Except as a matter of inconvenience, the clenching of the teeth often observed prior to tooth-drawing did not deserve particular notice.

Depression or Prostration.—This was generally produced, more or less, and sometimes to an alarming degree, though hitherto no fatal issue had been traced to the employment of chloroform. It generally diminished the number of pulsa-

tions, and in one or two instances both the heart and lungs had almost ceased to act, and fears were entertained that the patients would die under the operation, but they had rallied, and had all done well ultimately. In most cases the reports stated that reaction had been perfect in from ten minutes to two hours; and, so far as our present knowledge extended, the depression produced was not of an alarming or dangerous nature. In one or two cases, indeed, in which the patients were reported to have been at death's door, and pulseless, from uterine hemorrhage, or prostration otherwise induced, they rallied under the influence of the chloroform, and the operations were safely performed, though ordinary stimulants had been previously tried in vain.

Secondary Hemorrhage.—One of the reports says that the writer fancies there has been a greater disposition to secondary hemorrhage than in cases in which chloroform has not been used; but he is the only observer who has noticed this. The reports generally made are, "Very trifling hemorrhage," "No secondary hemorrhage," &c., and in the midwifery cases this was very striking. In several instances in which there was previously a disposition to flooding, there was none when chloroform was used; or without any previous flooding of a serious character, the reports state—"Very little discharge," or "Less hemorrhage than usual." The result of experience thus far is therefore in favour of this agent, as regards this particular effect.

Eccoriation of the lips and nose had generally been stated to be caused by using an impure specimen; but it had also been observed in so many cases in which every care had been taken to have pure chloroform, that it must be considered as an effect of the agent itself. It may, however, be prevented by taking care to avoid direct contact.

Several cases of death at periods varying from twenty-four hours to two or three days, were mentioned in the reports from which Dr. Nevins derived his information; but unfortunately they were nearly all cases of operation for hernia, or upon the abdomen in some way, and peritoneal symptoms had been chiefly sought for, whilst the state of the brain was not once alluded to, and that of the lungs very slightly in only one or two, and in these no mention was made of great congestion. In one respect the experiments of Mr. Gore were particularly interesting in their bearing upon midwifery. He killed a rabbit which was nearly at the full period of utero-gestation, by the repeated inhalation of chloroform vapour, and then extracted six young ones from the uterus of the mother, which all lived for several minutes. Dr. Nevins had been struck by the few cases of still-born children in the midwifery reports sent to him. He had the particulars of about eighty cases of labour in which chloroform or ether was administered for periods varying from ten minutes to sixteen hours and a half, of which eighteen were cases requiring turning or instrumental assistance. Six children only were still-born; of these, two had undergone craniotomy; one was a funis presentation; one was turned for placenta prævia; and the other two were restored by appropriate treatment. In fact, it appeared as if the child had a better chance of life after the employment of chloroform than without it, as it was usual to have a greater number of still-born children with such cases as had been reported.

From the experiments of Mr. Gruby, it appeared that the uninterrupted inhalation of chloroform for from three to five minutes caused death in several of the animals experimented upon; whilst similar animals breathed the vapour for upwards of an hour and a half, without injury, if occasional draughts of unmixed atmospheric air were interposed; from which the important inference might be drawn, that we ought, in every case of its administration, to remove the sponge occasionally, and allow the patient to inspire pure air alone.

The statement that the vitality of the blood was impaired by anæsthetic agents was not borne out by facts; for in Dr. Snow's report of ether cases he says the blood coagulated firmly in every case, and the jets of blood from divided arteries had the usual vermilion colour. This was observed in many of the reported cases, whilst in one or two the colour was said to be "perhaps not quite so light as usual, but the venous blood was not so dark;" and in a rabbit killed by chloroform, Mr. Gore found that the blood drawn from the jugular and crural veins just before death, coagulated quickly and firmly.—*Lond. Med. Gaz.*, March, 1848.

64. *Injurious Effects of Chloroform in Midwifery Practice.*—Dr. REED, during the discussion of a paper read by Mr. Brown before the Westminster Med. Society, on the use of chloroform, said:—"He was sorry that only favourable cases in which chloroform had been used had been published. No doubt it produced good effects in some cases, in others bad effects. In one institution in London it had been employed in all cases. In one instance a strong, healthy woman, the mother of several children, had been seized with hemiplegia six or seven days after the use of chloroform. It had been noticed, too, that there had been more still-born children since the use of chloroform than previously. Some of these presented a peculiar state of the fluids; fluid had been extravasated under the skin. An eminent physician who had visited the institution to see the effects of chloroform, had been prejudiced against it; the child in this case was born in a 'tipsy state.' Though no such cases were published, yet in private we were hearing often of the unfavourable effects of chloroform. Thus in one case in which the patient had been in labour for forty-eight hours, she was kept under the influence of chloroform for twenty-eight hours—the child was still-born. In another case it was given for neuralgia to a lady lately delivered, and it proved fatal. What was the experience of members of its unfavourable effects? In difficult and turning cases he should always himself give chloroform, but not in natural cases, unless there was some good reason for its use."—*Lancet*, April 29, 1848.

65. *Violent Convulsive Movement caused by chloroform administered to a Patient in labour.*—Mr. KAY stated to the Liverpool Medical Society, (Feb. 3.) that he had tried chloroform in one case of midwifery requiring the application of the short forceps. The patient's convulsive movements were so violent, that he was obliged to wait until the effects of the chloroform had gone off, before he could apply them.—*Ibid.*

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66. *Life Insurance.*—In the *American Journal of Medical Sciences*, N.S., Vol. XI. p. 253, we stated the particulars of the case of Schwabe v. Clift, and the verdict of the jury. It would seem that this verdict has been set aside. The following account is given in a recent Law Periodical.

"A. effected a policy on his own life, subject amongst others to the following conditions: that the policy should become void, if the assured should die on the high seas, or should go beyond the limits of Europe, or enter the military or naval service, except with the permission of the assurers, and that 'every policy effected by a person on his own life should be void, if such person should commit suicide or die by duelling, or the hands of justice.' A. died in consequence of having voluntarily, and for the purpose of killing himself, taken sulphuric acid, but under circumstances tending to show that he was at the time of unsound mind. In an action by the administratrix of A., upon the policy, the defendants pleaded that A. committed suicide, whereby the policy became void, and at the trial, the judge directed the jury, that in order to find the issue for the defendants, it was necessary that the jury should be satisfied that A. died by his own voluntary act, being then able to distinguish between right and wrong, and to appreciate the nature and quality of the act that he was doing, so as to be a responsible moral agent; that the burden of proof, as to his dying by his own voluntary act, was on the defendants; but that being established, the jury must assume that he was of sane mind, and a responsible moral agent, unless the contrary should appear in evidence. Held, upon a bill of exceptions, that this direction was erroneous, for that the terms of the condition included all acts of voluntary self-destruction, and therefore, if A. voluntarily killed himself, it was immaterial whether he was, or was not, at the time, a responsible moral agent."—*Law Magazine*, No. 78.

T. R. B.

67. *On the Existence of several Metals in the Human Blood.*—Mr. E. MILLON has addressed to the Academy of Sciences a memoir on the normal presence of many

metals in the human blood, and an analysis of the fixed salts contained in that liquid.

Upon receiving the blood issuing from a vein, in about three times its volume of water, and introducing it after this direction into a jar of gaseous chlorine, it is seen to coagulate, becomes of a brown colour, and soon after forms a gray amorphous mass, in which the organization of the red particles entirely disappears. When it is thrown upon a cloth and pressed, a liquid flows from it, which filters rapidly and remains liquid.

If this reaction be minutely examined, we find a peculiar separation of the elements of the blood. The organic substances are found almost wholly in the coagulated portion, while, on the contrary, all the saline principles are collected in the liquid. This separation is so perfect, that when the coagulum is first washed and afterwards burnt, it is destroyed without leaving any residue. On the other hand, the liquid evaporated to dryness, and burned in the organic analysis tube, yields so little carbonic acid, that it cannot be estimated at more than one per cent. of the organic matters of the blood, which chlorine does not coagulate.

It is easy to convince ourselves that the coagulum furnished by the organic principles does not contain the fixed salts of the blood, and does not condense them, but contains such a quantity only as is proportional to the quantity of the water with which it is impregnated, so that if we weigh the water in which we received the blood, and weigh it again after mixture with the blood, we may act upon a known weight of filtered liquid, as upon a determinate quantity of the blood. This liquid accommodates itself so well to all analytic researches, both as to quantity and quality, that we can immediately discover the quantity of one or other of the fixed salts of the blood. To give some idea of this rapidity, two or three minutes are sufficient to obtain from the blood even the iron which it contains in a state of limpid solution, in which all the reactions of this metal are discoverable.

This method is, in fact, an analysis of the fixed salts of the blood in the hurried way, and cannot fail to be advantageously applied to other tissues, and to other liquids of the animal economy, added to which, the most repulsive organic matters are by the action of chlorine converted into common saline solutions.

The facility of isolating the saline portion of the blood, leads to other results well worthy of notice. M. Millon states that he has proved that the blood of man constantly contains silex, manganese, lead and copper. The proportion of silex and of the metals is sufficient to prevent the necessity of any peculiar modification of the analysis. After evaporating to dryness the liquor left after the action of the chlorine, the residue is to be calcined for a short time, to get rid of the small quantity of organic matter, which the chlorine has not rendered insoluble. The insoluble portion of the ashes is then to be treated as a mineral, in which we find silex, manganese, lead and copper. It is found that 100 parts of the insoluble residue of the ashes of the blood yields

Silica	from 1 to 3	parts
Lead	" 1 to 5	"
Copper	" 0.5 to 2.5	"
Manganese	" 10 to 24	"

After this determination, so easily effected, it becomes a subject of curious inquiry whether the copper and the lead are disseminated through the whole mass of the blood, or if, as happens with iron, they are confined to the red particles.

Experience has left no doubt on this subject. One kilogramme of the clot carefully separated from the serum of many bleedings, yielded 0.083 gr. of lead and copper; one kilogramme of serum separated from the preceding clot, yielded only 0.003 gr. of these two metals, and M. Millon thinks that these three milligrammes of lead and copper contained in the serum, ought undoubtedly to be attributed to the red globules, dissolved or suspended in the lymph.

It appears then, that the copper and the lead are not diffused throughout the blood, but are fixed with the iron in the globules; and everything leads to the conclusion that they contribute, as it does, to organization and to life. Do they exert a decided influence on the health? Does chlorosis exist on account of deficiency of copper, lead and manganese? or is there excess, the secret cause of

any obscure and disordered affection? Therapeutics ought to answer these questions and enlighten us in its turn. Legal medicine will, on its part, perhaps draw up useful hints as to the permanent presence of these metallic poisons, and with respect to their enormous variations, even in the midst of life.—*London, Edinburgh and Dublin Philosophical Magazine*, from the *Comptes Rendus*, Jan. 10, 1848.

T. R. B.

68. *Progress of Putrefaction, &c.*—When we consider that decomposition had proceeded with such rapidity after death, as to render premature interment necessary, it is highly improbable that, after a lapse of two years and four months, the corpse of Cromwell should have been in such a state of preservation, as to admit of its being suspended from the gallows in the manner described by the journals of the day. Orfila, who has bestowed much attention on the subject of decomposition, found that, in a majority of cases, bodies were reduced to skeletons, at the end of fourteen, fifteen, or at the utmost eighteen months, even when buried in coffins and wrapped in clothes, and thus when no unusual sign of putrefaction had appeared before interment. The greater the decomposition before interment, the more speedy would be the destruction of the soft parts and dissolution of the ligaments. A body buried in a gravelly soil, such as that upon which Westminster Abbey stands, would, under ordinary circumstances, undergo changes more slowly than if placed in a damp and rich soil, but it may be doubted whether such a locality would much retard the dissolution of bodies, in which the putrefactive process had set in immediately after death and made great progress. From inquiries of the Clerk of the Works at the Abbey, we find it uncertain how long bodies lie there without becoming skeletons, as only one has been seen for many years, and that had been buried about sixteen years—it was a perfect skeleton.

On a trial that took place in Edinburgh some years ago, Dr. Barclay, the celebrated anatomist, stated, that the longest time he ever knew, during which the features were recognizable, was a fortnight.—*Cooper on the Disease and Death of Oliver Cromwell in Dublin Quarterly Journal of Medical Science*, May 1848.

T. R. B.

69. *On Transparent and Opaque Arsenious Acid.* By M. Bussy.—It is well known that arsenious acid exists in the different states above mentioned, and also that the transparent variety becomes opaque; it has been stated that the former is less soluble in water than the latter. By performing experiments to determine this point, M. Bussy has arrived at the following conclusions. 1. That the transparent acid, far from being less soluble than the opaque, as stated by several chemists, is on the contrary, much more so: the difference is nearly as three to one, at the temperature of about 55° F.; thus a litre of water which dissolves forty grammes of the transparent acid dissolves only twelve to thirteen grammes of the opaque. 2. That the transparent acid dissolves much more rapidly than the opaque. 3. That neither of these acids possesses a perfectly constant degree of solubility. 4. That the opaque is converted into the transparent, by long-continued boiling in water; that is to say, it acquires the same degree of solubility as the transparent acid, which is such, that one hundred grammes of acid dissolve in a litre of water at 212°. 5. That under the influence of water and a low temperature, the transparent is converted into the opaque acid. 6. That the mixture of the two varieties of acid in the same solution explains the anomalies observed in the solubility of arsenious acid. 7. That division which facilitates the solution of the opaque arsenious acid, without increasing its solubility, considerably diminishes that of the transparent acid, and to such an extent, that the latter reduced to fine powder and levigated, is not sensibly more soluble in the cold than the opaque acid; this effect undoubtedly results from a transformation which it undergoes, either at the moment of pulverizing, or of its contact with water. 8. That the acid which has become opaque by the slow transformation of the transparent, by the action of ammonia, and the acid crystallized in water, are similarly acted upon by water and appear to belong to the same variety. 9. That under the influence of dilute hydrochloric acid, the opaque acid dissolves more slowly than the transparent; this circumstance, which modifies the nature of the products formed during solution, explains why the phenomena observed by M. Henry Rose during the crystallization of the trans-

parent acid, are not in general so intense in the solution of the opaque acid. 11. That the difference which has been observed in the action of the two arsenious acids, on the tincture of litmus is merely apparent.—(*Journal de Chimie Médicale*, Feb. 1848.) London, Edinburgh and Dublin Philosophical Magazine, May 1848.

T. R. B.

70. *Test for Strychnine*.—In 1843, M. MARCHAND described the remarkable and perfectly characteristic property, possessed by strychnine of giving a magnificent blue colour, passing quickly to violet, and lastly to yellow, when triturated with peroxide of lead and a few drops of concentrated sulphuric acid, containing one-hundredth of its weight of nitric acid. Since the period above mentioned, several chemists have examined this reaction, and M. Herzog has proposed to omit the nitric acid as useless; another chemist proposes to substitute peroxide of manganese for peroxide of lead, and M. Otto prefers bichromate of potash to these oxides, which, according to him, gives rise to a much finer violet colour, and to a certain extent, this is certainly the case.

M. Marchand proposes certain objections to these omissions and substitutions, and demonstrates that the reagents which he has proposed are the best suited to the purpose.

First, the nitric acid added in the proportion of one-hundredth to the sulphuric acid, is not useless, as stated by M. Herzog, for by its influence, the series of colours is produced much more readily and sensibly than when it is omitted. M. Marchand states that he was aware that strychnine yielded a fine blue colour by the action of pure sulphuric acid and peroxide of lead only; but that it is impossible to perceive the red and yellow colours, which are readily perceptible in the conditions prescribed by him; and the author adds, that he never said or believed, as supposed by M. Herzog, that strychnine, when placed in the circumstances described, might serve as a reagent for nitric acid.

As to the substitution of peroxide of manganese for that of lead, the author has only one objection to make, which is, that the salts of manganese sometimes possessing a red colour, there can be no certainty that the series of colours obtained belongs properly to the substance supposed to be strychnine, since one of the reagents employed may itself give rise to one of the colours indicated.

The same is the case with the bichromate of potash recommended by Mr. Otto. This salt produces by its solution in sulphuric acid, a yellow or green colour, and it follows that the series of colours indicated by M. Marchand is diminished by at least one colour, and sometimes by two, the yellow and red, and consequently the reaction is far from being complete.

The method of employing M. Marchand's process is that of triturating the strychnine with peroxide of lead and concentrated sulphuric acid containing one per cent. of nitric acid: by this process, the colours obtained are blue, becoming rapidly violet, then gradually red, and lastly, after some hours, it assumes a delicate yellow colour.—(*Journal de Chimie Médicale*, April, 1848.) London, Edinburgh and Dublin Philosophical Magazine, May, 1848.

T. R. B.

71. *Proof of Poisoning*. “A case involving a point of some interest as regards medical jurisprudence, occurred at the last Liverpool assizes. The facts were as follows:—

“Elizabeth Johnson was charged with the wilful murder of her husband, by administering arsenic. The deceased, who, at the time of his death, was in the forty-second year of his age, was described as being a very healthy man, and, as one of the witnesses said, had never been known to suffer a day's illness in his life. After partaking of supper on the evening of Thursday, the 26th of November, he was seized with vomiting, and complained of severe thirst and of pain in the bowels, together with heat in the throat. Having remained in a very weak condition for some days, he died on the 3d of December. On the 4th, the day after his death, a post-mortem examination was made by a surgeon, who at the trial described the viscera as being generally healthy, and that the internal surface of the stomach was highly injected: the same appearances were presented throughout the alimentary canal; the lips were excoriated, the gullet and bladder much inflamed, and the lungs of an unusually red or scarlet colour. The surgeon stated

that these appearances might arise from an irritant cause, but he had never met with them as the result of natural causes, and that arsenic would, in his opinion, produce such symptoms. The witness also stated that he thought arsenic was in the body. The other medical man, who attended the examination, upon subjecting the intestines to Reinsch's test, obtained a slight film on the copper, but so slight that he could not say what it was.

"Thus, the medical evidence, up to this period, remained in a very unsatisfactory state. However, the body, after having lain for some period in the ground, was, in consequence of some facts that transpired in the interim, exhumed in the early part of March, when a large portion of the internal parts of the stomach and the heart, were submitted to Marsh's test. The result was a metallic deposit on a piece of cold porcelain, which was found to be discharged by the action of chloride of lime. By another process, a yellow precipitate was produced.

"From these appearances, the medical men concluded, that *there was arsenic in the body, but not sufficient to have caused death.* According to the evidence of one gentleman, the matter tested did not amount to the one-thousandth part of a grain. It was proved, in evidence, first, that the prisoner purchased arsenic; secondly, that she had been heard to express threats against her husband; thirdly, that both by Marsh's and Reinsch's tests, arsenic was found in the body.

"Under these circumstances, we should not have been surprised had the jury returned a verdict against the prisoner, although the quantity of arsenic found might not have been sufficient to cause death, inasmuch as the deceased might have got rid of a portion of it by the violent vomiting which preceded his death. Much reliance, however, was placed upon the smallness of the quantity found, and in addition to this, the learned judge, in summing up, suggested that, as it is well known that arsenic was contained in many substances, and might be extracted therefrom, there was a possibility that, during the interval between the first and second exhumation of the body, owing to the grave where the body was placed, containing a great deal of water, (as appeared in evidence,) the poison discovered might be attributable to this cause.

"We confess we are inclined to think this a strange theory, and one approaching very near to the circumstances endeavored to be established in the case of Tawell, in which apple pies were suggested as the medium of arsenic (*prussic acid?*) and cause of death. In the principal case, however, to which we are alluding, the suggestion was more successful, and the jury acquitted the prisoner."—*The Jurist*, May 1, 1847.

The above article seems to have given offence, and accordingly in the succeeding number, (May 8th,) there is an attempt at an apology, with the following additional remarks. "It appears that, at the first examination of the body of the deceased, no arsenic was found, and the jury on the inquisition returned a verdict of natural death. On the second examination, however, a small portion of arsenic was detected, and the medical witnesses stated that it was impossible their experiments could have introduced it, because the zinc and other metals used by them, in making the test, were previously tested, and were found quite pure, and in addition, the water was pure distilled water. Then on summing up, the learned judge stated that, this being so, it was material for the prisoner that the attention of the jury should be called to the fact proved, viz., that after interment, the body, from the wetness of the soil around, had become filled with water, which, not being pure distilled water, might reconcile the appearances at the first examination, when no arsenic was found, with those of the second, when slight indications appeared; but that, if large quantities of arsenic had been found on the second examination, the fact of the body having absorbed the water, ought not to be taken into their consideration."

T. R. B.

72. *Poisoning by Bichloride of Mercury.*—Three cases are stated to have occurred at Guy's Hospital, during the year April 1846, to March 1847.

The first case occurred in a man aged fifty. Probably about a drachm was taken, and with a suicidal intent. The symptoms were anxiety, lividity of countenance, and prostration, violent vomiting and purging; the dejections consisting mostly of mucus tinged with blood; skin moist, and occasional cramps; soreness of the mouth and fauces; no pain in the abdomen. The remedies used were eggs

and opium. The tongue became covered with a grayish-white crust, and rigors and convulsions came on before death. The patient lived five days with these symptoms. All this time, there was total suppression of urine, and absence of salivation. The necroscopic examination showed all the organs to be comparatively healthy except the colon and rectum, which were violently inflamed, and of a dark-chocolate colour, the mucous membrane in many places sloughing.

Another occurred in a young woman, who attempted to swallow a cupfull of the solution of bichloride, but being resisted, only a sufficient portion entered to affect the mouth and fauces, and none was swallowed. These parts were white, swollen and sore. The sub-maxillary glands were enlarged, but there was no pytalism. The action was purely local, and the patient speedily recovered.

The third case of poisoning by corrosive sublimate, was a suicidal act in a woman. The exact quantity was not known, but it was stated, the greater part of two-pennyworth. Her symptoms were extreme prostration and restlessness; absence of pain in the abdomen; violent vomiting and purging, with bloody stools; no salivation; urine naturally secreted; intense inflammation of the vulva. The patient lived eight days. The principal necroscopic appearances were in the large intestine, which was of a deep chocolate colour, with sloughing green patches of mucous membrane. The vulva, also, was in a sloughy state.—*Guy's Hospital Reports, New Series*, Vol. 5. T. R. B.

73. *Remarkable Case of Suicide*, by Prof. FENGER, of Copenhagen. The patient fired a pistol, loaded with pretty large shot, into his mouth. There was considerable laceration, but he went on very favourably for four days, when violent hemorrhage took place from the mouth and nose, which proved rapidly fatal. The *post-mortem* examination showed that a single shot had penetrated into the right sphenoidal sinus, and wounded the carotid on the side of the *cella turcica*.—*Monthly Journal of Medical Science*, (Bennett's,) Feb. 1848. T. R. B.

74. *Appearance of the Areola as a Sign of Pregnancy*.—Dr. SIMPSON showed the Edinb. Obstetric Society a woman seven months gone with child, whose breasts gave no indication whatever of her pregnant state. The case was a peculiar one. There was no doubt of her being pregnant, as the fetal heart could be distinctly heard; but at an earlier stage, great doubt had been thrown on the nature of the case, from the presence of several large fibrous tumours in the walls of the uterus. These had even given rise to the suspicion, on the part of the physician she had consulted, that the fetus was extra-uterine. She had been four years married, and was now pregnant for the first time. On examining both breasts, there is no appearance whatever of a single enlarged gland on the areola, besides, the areola is not all tumid, and is scarcely darker than the surrounding skin. Dr. Simpson had caused a drawing to be made of this breast, which he contrasted with another, of the areola of a lady who had never been pregnant, but was suffering from great uterine irritation. In this last instance, the areola was turgid and of a dark-brown colour; the papillæ were numerous and much enlarged, and the superficial veins very large and prominent. He had observed the same appearance as in the last case, in other non-pregnant women. In one, the woman could never be pregnant, as the uterus was malformed, and not more than an inch and a half in length. In another case, the marks were so distinct, that the late Dr. Hamilton, trusting mainly to them as undoubted indications of pregnancy, two or three years before, pronounced the lady to be pregnant, when the uterus was only enlarged by a mass of fibrous tumours.

Dr. Kerr had under his care, a lady who is now four months gone in her third pregnancy. The areola is not at all discoloured, but the papillæ are much enlarged and prominent.—*Ibid.*, March 1848. T. R. B.

75. *Simulated Edema of the Left Arm*.—A woman, aged forty years, said to be from the Provinces, came expressly to Paris in order to be treated for a considerable œdematous swelling of the whole of the left arm, a swelling which she attributed to a commencing elephantiasis, one of her sisters having, according to her statement, had a similar affection of the arm. She was received at La Charité, in the wards of M. Cruveilhier. The limb was placed upon a pillow, forming

an inclined plane from the axilla. An attentive examination of the arm, axilla, shoulder, and breast, led to the discovery of nothing that explained the singular and abnormal swelling. The inclined position caused no change in it for several days. Her general health was excellent. The swelling of the limb was more evident in the morning and during the day, and greater in the arm than in the forearm and hand. It did not, however, resemble an ordinary œdema; the pressure of the fingers left no depression, nor was the skin hard, doughy or otherwise diseased. Early one morning, the patient was surprised with a tight ligature, which she had placed during the night, round the upper part of the arm near the axilla, which had strangled the circulation. The following day, not having a cord to tie round the arm, she produced the same effect by pushing up the sleeve of her chemise, and twisting the edge of it strongly, so as to compress the limb. The deception could be easily perceived on carefully examining the superior part of the limb, where a circular mark was observed made by the ligature.—*Ibid.*, March 1848, from the *Annales de Thérapeutique*. T. R. B.

MISCELLANEOUS.

76. *The Influenza which prevailed in London in 1847-48.*—Dr. WEBSTER brought this subject under the notice of the Westminster Medical Society, not so much to describe the symptoms characterizing the existing epidemic, as to mention a few facts which appeared of interest respecting its very great prevalence and mortality. According to his own observations, almost all the cases were accompanied by remarkable prostration of strength, of a much more decided character than during the former epidemic influenza. The pulse was usually very feeble: the extremities were often felt exceedingly cold, notwithstanding the mild temperature of the weather; and the pectoral affection generally present, although sometimes apparently of an inflammatory nature, was seldom so in reality. The general type of the complaint was asthenic, as exhaustion, debility, and depression of the system were the marked features of this malady throughout all its stages. According to the Registrar-General's reports, the disease, although rather prevalent in London during last November, did not prove very fatal until early in December. The deaths, in the second and third week of the former month, were only four in each of those two periods: but in that ending the 27th November, thirty-six deaths are reported from influenza. It was, however, during the first three weeks of Dec., that this epidemic malady proved most fatal, 842 deaths having then occurred in the metropolis, in a gross mortality of 6816; thus making the deaths from influenza 12.35 per cent. of the whole. Of these, 421, or exactly one-half, occurred in persons above sixty years of age; whereas, less than one-fourth, or only 193 individuals, under fifteen years of age, were carried off by this epidemic during the same period. Contrasted with the above results, the deaths from the same complaint during the first three weeks of the current month of January had been considerably less than half the number which took place in the first three weeks of December, being 331 in a gross mortality of 4420, or only 7.48 per cent. of the whole, instead of 12.35 per cent., as in the previous instance. It is also curious that, unlike the results observed in the early part of last December, the majority of deaths from influenza during the first three weeks of January had occurred in persons under fifteen years of age, their number being 128; whereas only 102 individuals sixty years old and upwards died during the same period from this complaint. The gross mortality from all diseases has been much greater throughout the metropolitan districts during the present winter than for many years past, and even since the great plague, 12,483 deaths, or nearly double the ordinary number, have occurred during seven weeks, of which 1315, or 10.53 per cent., were from influenza. The deaths reported as from influenza in the week ending January 15th, had, however, fallen to 102; whereas, during the week ending the 11th of December last, the fatal cases from the same complaint had increased to 372, or more than three times the subsequent amount. During the first three weeks of December, when the epidemic was most prevalent and fatal, the temperature of the weather was remarkably high for the season of the year, it being

often 56° or even 57° , the mean temperature of the whole period being 47° Fahr. The atmosphere was also very moist. The wind continued constantly south-west or south, and generally blew strong, whilst during the week in which the mortality from influenza was greatest—viz., in the week ending the 11th of December—the wind was often very high, and even stormy. On the other hand, during the three weeks ending the 15th of January, when the frequency and severity of the epidemic had so much declined, the weather had become much less moist, or even dry, and was generally calm in comparison, whilst the prevailing winds were either easterly or northerly. The temperature of the air also ranged from seven to thirteen degrees under the average of the previous period; the mean height of the thermometer having indicated thirty-four during the first week, forty in the second, and thirty-six in the third. Speaking generally, Dr. Webster's own plan of treatment was almost always stimulating and tonic—the reverse of antiphlogistic. The usual remedies he employed consisted of antimonial powder, with extract of conium or hyoscyamus, and small doses of ipecacuanha, to allay cough and bronchial irritation. Ammonia, senna, cascarrilla, cusparia, with nitric acid and quinine, proved frequently most useful, particularly the latter remedy, towards the end of the attack. When aperients were required, the mildest were only admissible, such as castor oil, &c., and the strength should be supported by beef-tea, mutton-broth, arrow-root, light and nutritious diet, with wine, and even brandy, all liquids being given warm. The patient remained in bed, and the horizontal position was enjoined (by Dr. Webster), with warm applications to the extremities, when necessary; and mustard poultices, or sometimes blisters, were applied, but the former remedy was generally preferable. Bleeding, or depletion in any form, according to all but universal consent, was considered improper, and, if ever employed, proved injurious: even tartarized antimony, so frequently useful in apparently similar complaints, at other seasons, he (Dr. Webster) found not only inferior to ipecacuanha, in the recent epidemic, but often inadmissible, from the depressing effects it produced upon the system.—*London Medical Gazette*, February, 1848.

77. *Re-Vaccinations in the Prussian Army in 1847.*—The total number of men vaccinated was 43,264; the number of those who bore marks of a former vaccination in a decided manner, 34,264; ditto with the marks not very distinct, 6,405; ditto with the marks not visible at all, 2,927. The vaccine virus developed itself satisfactorily in 25,544; very irregularly in 7,425; and not at all in 10,627. The vaccinations which had yielded no results were repeated; they acted in 2,718; and failed entirely in 8,952 cases. In consequence of the present vaccination, there were developed from one to five vaccine pustules upon 13,295; from six to ten upon 8,164; from eleven to twenty upon 5,767; from twenty-one to thirty upon 1,036 of the men. Amongst those who were vaccinated in the year 1847, there was, within the same year, no case of varicella, none of actual small-pox, and one only of chicken-pox. The lymph was obtained from vaccinated children or grown-up persons. It is remarkable that amongst those who were subjected to re-vaccination there were several who had had the small-pox before, yet upon whom the vaccine matter produced the usual pustules.—*Lancet*, June 17, 1848.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Case of Prolonged Gestation in which the date of the Conception was accurately ascertained. By R. H. McILVAIN, M. D., Charlotte, N. C.

The following case of gestation, prolonged to probably 296, certainly to 293 days, occurred under the personal observation of the writer. The parties are of unexceptionable character, and the statement of the husband that no intercourse was had after the night of the 4th of July, may be implicitly relied on.

Mrs. ———, whose character is above suspicion, was visited on the evening of July 1st, 1847, by her husband, whose business had compelled him to reside for more than a year before in a distant state. The husband remained till the morning of the 6th of July, and then departed, and did not return for more than nine months. On the nights of the 1st, 2d, 3d, and 4th of July, there was sexual intercourse between the parties, but none on the night of the 5th or after. Shortly after Mrs. ——— considered herself pregnant, and on the 23d of April, 1848, was delivered after an easy labour of a fine healthy female child, weighing nine pounds.

Supposing impregnation to have occurred on the night of the first, as a consequence of the first coition, the duration of the pregnancy must have been 296 days, but if we suppose the last copulation to be the one from which the pregnancy resulted, the period of gestation was 293 days.

This case is interesting, inasmuch as it furnishes conclusive evidence, that gestation may be prolonged to thirteen, if not sixteen, days beyond the usual period.

The large size of the child—being a full pound and a half above the average weight of female children, is a circumstance in favour of its having been carried beyond the usual period.

The mother had borne three children previously, none of which weighed over eight pounds.

CHARLOTTE, N. C., May 25, 1848.

The Smart-weed as a Remedy for Mercurial Salivation and Aphthous Stomatitis. (Communicated in a Letter to the Editor.) By R. WILCOX, M. D., of Elmira, New York.

I have frequently, during the past year, prescribed a decoction of the leaves of the herb, well known by all in this country, and familiarly denominated, smart weed, as a remedy in mercurial ptyalism, and also in that form of aphthous stomatitis, which occurs during lactation; and the degree of satisfaction I have felt while using it, has only been equalled by my surprise.

The possibility that this plant might possess remedial powers for salivation was suggested to my mind by the fact that farriers employed it with success to the cure of that disease of the salivary glands of the horse called slabbering; and being destitute so far as I then knew of any agent, which, if locally applied, would exert a decided curative effect, I resolved

upon its trial the first opportunity. The opportunity soon presented itself. The remedy was used; and I was agreeably surprised when I saw every distressing and unpleasant symptom removed in twenty-four hours.

I have now employed it in about twenty cases of mild mercurial salivation, and have uniformly procured the same prompt and complete relief. I have tried its use in two of the severer forms, attended with numerous and deep ulcerations; these cases were made much more comfortable, but not cured. The benefits I derived from it in salivation induced me to make trial of it in the follicular stomatitis of nurses, which appears to be endemial to the valley of the Chemung River. (At least it is of much more frequent occurrence here, than at any location with which I am acquainted.) Within the last three months, I have prescribed its use in ten cases, and without an exception, they have been speedily and entirely relieved.

I am not prepared to state what can be accomplished with it in those cases of aphthous stomatitis connected with a tubercular state of the constitution, having yet had no such case; neither have I used it where the ulcerations were deep; in such cases, other remedies will doubtless be more effective. I suggest the remedy to my medical brethren for further trial, and if it shall prove in their hands to be worthy the commendation I have given it, I shall ever feel myself abundantly rewarded. The manner in which I have used it, is to take about an ounce of the dried leaves and tops. Water, one pint, boil twenty minutes and strain. The mouth is washed with it every hour through the day.

ELMIRA, N. Y., May 8th, 1848.

Case of Wesley Pine, the murderer of Mrs. Russell. W. P. GIBBONS, M. D., Poughkeepsie.—On the 19th of January, 1848, Wesley Pine shot Mrs. Russell, at her residence in Pleasant Valley. He was tried at the Oyer and Terminer of Dutchess county, Judge Barculo presiding—condemned and sentenced. The execution took place on the 26th day of May, in one of the cells of the prison. He seemed to retain consciousness for about two minutes; his struggles continued for four minutes and a half, and at the expiration of half an hour he was cut down.

This individual was about 36 years of age. According to his own account, from the time that he was 15 or 16 he had occasionally been subject to melancholia, at which times he would take liquor; a very small quantity of which would have a great effect upon him.

At three different periods of his life he attempted to kill himself. His father committed suicide; and from the evidence elicited during the trial, it appears that other branches of the family had been subject to monomania. The prisoner's counsel made the defence on the ground of insanity.

Port-mortem examination two hours after death, in presence of Drs. J. Barnes, R. A. Varick, H. H. Cochran, and E. Deyo.

The following measurements of the head were taken, as recommended by Combe:

Distance across the frontal and around the spinous process of the occipital bone, . . .	21.6 inches.
From occipital spine to individuality, . . .	7 $\frac{1}{2}$ "
" occipital spine to ear, . . .	4 $\frac{2}{10}$ "
" ear to individuality, . . .	4 $\frac{3}{4}$ "
" ear to firmness, . . .	5 $\frac{3}{10}$ "
" destructiveness to destructiveness, . . .	5 $\frac{9}{10}$ "

From cautiousness to cautiousness, . . . : 5 inches.
 " ideality to ideality, ... $5\frac{2}{10}$ "

Expression of the countenance natural. Slight suggilations over the forehead and lower part of the face. Pupils clear; conjunctiva somewhat injected. Tongue and gums exsanguiated.

Body warm; temp. of the abdomen 80°. Rigidity of the muscles of the legs and face. Colour of the body natural. Form well developed, muscular.

Pressure of the knot a little to the left of the occipital tubercle; no dislocation of the neck. Slight fecal evacuation. In cutting the scalp, the posterior temporal view of the right side was divided, from which there was a free discharge of black fluid blood; with this exception little or no blood escaped from the incision. Skull thin. Superficial veins of the brain much engorged with dark and liquid blood. A number of small spongy excrescences were scattered over the surface of the pia mater of the right side. Adhesions of the membranes to each other and to the substance of the brain on each side of the longitudinal sinus, and upon the middle lobes of the cerebrum. At the points of adhesion with the brain were four or five firm, white, fibrinous deposits of the size of a sixpence. Around these as nuclei the pia mater was thickened, and infiltrated with serum, having the appearance of jelly, the whole occupying a space of about three inches square. Ventricles filled with serum.

Weight of the entire brain, without the dura mater, 48.30 ounces.

" of the cerebrum, ... 41.40 "
 " of the cerebellum, ... 6.90 "

On slicing the brain, the centrum ovale was found to be softened; there were but few bloody points in the horizontal sections. Choroid plexus injected. Cerebellum softer than the centrum ovale.

The trunk was opened by an incision extending along the median line of the body, from which no blood escaped. Extensive adhesion between the costal and pulmonary pleura of the right side. Lungs filled with air, and the vessels engorged with dark fluid blood; structure healthy; no liquid in the cavity of the chest. But little serum in the pericardium; heart natural; cavæ and right auricle filled with dark fluid blood; left side nearly or quite empty; no coagula in any of the cavities.

Peritoneum and viscera of the abdomen healthy. The stomach contained about two fluidounces of chyme, and the duodenum and small intestines about twice as much chyle; the prisoner had eaten a full breakfast. Small patches of inflammation in the mucous membrane of the stomach. Weight of the liver, 5 pounds avoirdupois; gall-bladder full. Spleen much engorged; weight, 9 oz. 1 dr. Weight of the kidneys 12 oz. 6 dr. No froth in the œsophagus or air tubes. No coagulated blood was observed in any part of the body.

On Antiscorbutic Diet.—By ISAAC G. PORTER, M. D. (Extract from a letter to the Editor.)

The idea advanced by Dr. Foltz, U. S. N., in his report on scurvy, (see No. of this Journ. for Jan. 1848,) that the antiscorbutic properties of the potato reside in its starch, struck me with much force. Little else enters into its composition, if we except water, some fibrous matter, and a little mucilage, or albumen. That its beneficial properties, therefore, are owing to this ingredient, seems a legitimate and natural conclusion; a conclusion strengthened by his argument, drawn from an analysis of scorbutic blood.

From intercourse with masters of ships engaged in the whale-fishery, I have long been acquainted with the reputed properties of the potato, in this respect, and recent conversations with them have confirmed me in the correctness of the opinion. Not an individual among them but feels perfectly secure against the scurvy, so long as he has potatoes on board. But they must not be too old, as they dry up and become useless. Capt. McC. says: "At New Zealand I purchased a large supply of potatoes, but they were of the old crop, the time for digging new ones not having arrived yet, being near at hand. I proceeded to sea, and two months afterwards, with a plenty on board, the scurvy broke out, and I had nine men down with it. As I was about sailing for port on their account, I fell in with a French vessel, just from shore, with some potatoes of the new crop on board. I could obtain only about a bushel, but that was sufficient to cure every man, though their gums were swollen and black, their teeth just ready to fall out, and their limbs beginning to show dark spots."

Their value is also shown in this journal, for Oct. 1847, p. 455. During the late famine in Ireland, scurvy became prevalent in certain localities, those suffering from it "having a sufficiency of bread—others, meat in addition, with sometimes wine or porter; but all had been deprived of potatoes for months." "Experience," the writer adds, "has long shown that a diet consisting solely of the potato, is capable of affording nourishment and of preserving the body in perfect health." Certain nations, it is well known, subsist almost entirely on rice, arrow-root, and similar kinds of vegetable food. These are all of the *starch class*, and it may be that therein, as with the potato, resides their chief value. These articles, particularly arrow-root, may furnish a desirable substitute for starch, as this latter is rarely if ever used, in its separate state, as an article of diet, while the former is equally portable, and may be made into excellent puddings, with spices, and if eaten with sauce of lemon juice and sugar, may be highly palatable. It may be purchased in any quantity in the Islands of the Pacific and elsewhere, and often as low as two and three cents the pound, which is much cheaper than flour as an article of diet. The same is true of Tapioca, and other articles of the starch-class.

Conversing, a few days since, with Capt. R., one of our oldest ship masters in the whaling fleet, I mentioned to him the theory in relation to starch, as being the chief ingredient in the potato. His crew had suffered most severely from scurvy in his last voyage. I inquired if he had any arrow-root on board. "No," was his reply, "for I was disappointed in obtaining it at the island, as it is my custom to do, for puddings, &c." On my informing him that arrow-root was almost entirely a form of starch, after some reflections he said—"I cannot but think there is truth in the theory you have named, for on looking back, I find that during those voyages when I took most arrow-root on board, I had the least scurvy. Besides," he added, "I was perfectly well during this last voyage, while all were sick around me, and two men died; and I know not to what to attribute it, unless it be to a practice which I have followed for years, of having, while at sea, a bowl of arrow-root gruel at my breakfast."

If the benefit resulting from the use of starch be as has been suggested, it may be profitable to contrast its compositions and its powers, as regards supplying the wants of the animal system, with other articles of diet. Thompson, in his late "Researches on the Food of Animals," gives the following list of nutritive or nitrogenized, and calorific or respiratory proportionals in a few familiar articles. Starch has 1 proportional of the

former and 40 of the latter. Arrow-root 1 of the former to 26 of the latter. Rice 1 to 10. Potatoes 1 to 9. Wheat flour 1 to 8. Barley 1 to 7. Oat meal, 1 to 5. Beans 1 to 2½. Milk 1 to 2. Are articles of diet antiscorbutic, just in proportion to the relative quantity of carbonaceous fuel they contain? Or does the antiscorbutic property reside in a due admixture of the two elements referred to, and which is found existing naturally in the potato? These are questions which can only be solved by experience and observation, and the result of my inquiries has been contributed with the hope that it may tend, at least, to direct the attention of others to the subject.

Scurvy is much more prevalent at the present day, than is generally imagined, and will even be liable to occur in whaling and other voyages, requiring long absence at sea. Should experience confirm the foregoing theory in relation to the starch-class, it will furnish a beautiful illustration of the wisdom and goodness of the Creator, in placing the remedy in the immediate neighbourhood of the disease, existing, as does the former, most abundantly on sea-coasts, and in the islands of the sea. The discovery, if such it shall prove, is simple, (but simplicity is the seal of truth,) and will confer infinite advantage on the interest of navigation, and the health and happiness of seamen. We cannot, however, expect that singly and alone it will prove a specific. Combined, as Dr. T. suggests, with lime juice, its powers will be increased, but there must also be the avoidance of other active causes of disease aside from ill suited diet; such as cold and moisture, ill ventilation, and want of cleanliness, mental depression, over-fatigue, and its contrary, want of exercise.

I cannot close, without alluding to the strong testimony adduced by Capt. P. in favour of the sal. nitre and vinegar treatment. He had been eleven months at sea, with only one ton of potatoes, and a crew of about thirty men, when the scurvy appeared in its most appalling forms. All except the officers, (four or five in number,) were prostrate, so that not a man was able to go aloft, on the duties of the ship. One man had died, others were scarcely alive, when they fell in with an English ship, that furnished them with nitre, and the directions for using it. This mode of treatment, it is well known, was first suggested by Mr. Patterson, Surgeon R. N., in 1794. It was not, however, his directions which were followed on this occasion, but the mode proposed by Mr. Cameron, Surgeon R. N. See *Cyc. Medicin.*, by Forbes, article Scorbutus; also, *Med. Chirurg. Rev.*, 1830, p. 483. In three days after commencing its use, one man, who was previously regarded as near his end, was able to go aloft; another died after a very few doses, being beyond remedy before the medicine was commenced—but the remainder of the crew speedily recovered, without going into port. Since that time, he has always taken it with him, in his voyages, and whenever, from the period he has been out at sea, and other circumstances, he fears the disease is about making its appearance, he commences the remedy in small doses, and thus far, his crew has always escaped. During the disastrous voyage alluded to above, after his nitre was exhausted, he used nearly a keg of gunpowder with vinegar, the effects of which, he thinks, are rather more happy than those of the nitre.

NEW LONDON, June 20th, 1848.

[The interesting facts furnished by our correspondent may be considered as confirmatory of the views of Dr. GARROD, whose important researches will be found at p. 200 et seq. of the present No. of this Journal.—ED.]

Kreosote in Erysipelas. By P. FAHNESTOCK, M.D., of Pittsburgh (Extracted from a letter to the Editor.)

Allow me to state that, during a practice of many years, I have been in the habit of using kreosote in erysipelas of the face, (as well as on all other parts of the body,) in both its simple and phlegmonous forms, confining my local treatment to this article alone. And such has been the success of this treatment, that I have as yet to witness a case which has not yielded to it.

In every case of local erysipelas I immediately apply the purest kreosote with a camel's hair brush over the whole of the affected surface, extending it some distance beyond the inflamed part, and at the same time administering a dose of chlor. hydrarg. followed by a sufficient portion of jalap to insure free catharsis. This, in the majority of cases, is all I find necessary. But when the mucous membrane of the mouth and fauces is also affected, I pencil those parts with a strong solution of the nit. argent., say from Zss to Zi to Zi of distilled water.

In the phlegmonous form it will be found necessary to repeat the application more frequently than in the simple, with the addition of a bread and water poultice, applied nearly cold and well sprinkled with water strongly impregnated with the kreosote, or a cloth, kept constantly wet with the solution, especially for the face.

The kreosote when applied, should cause the parts to become white immediately. If this does not occur, it is not pure. Thus you will perceive that success depends upon having the best quality of oil. It is worthy of remark that the skin does not become in the least marked by the application, no matter how often it is applied.

I was first induced to make a trial of this remedy, by a remark made by Dupuytren in a small pamphlet which fell into my hands, in which he supposed it might be a good remedy in this disease.

The result of an extensive and exclusive use of this article in erysipelas, has induced me to place the most implicit confidence in it; and all I ask of the profession is a fair trial for it, confident that whoever once tries it, will abandon all other articles in its favour.

P. FAHNESTOCK, M.D.

PITTSBURGH, June 1st, 1848.

Proceedings of the Third Meeting of the Association of Medical Superintendents of American Institutions for the Insane.

THE Association of Medical Superintendents of American Institutions for the Insane, commenced its third meeting, at the Astor House in the city of New York, on the 8th of May, 1848, the Vice President, William M. Aul, M.D., in the chair and Thomas S. Kirkbride, M.D., Secretary.

Present—Dr. James Bates, of the Marine Insane Hospital at Augusta; Dr. Andrew McFarland, of the New Hampshire State Hospital at Concord; Dr. Wm. H. Rockwell, of the Vermont State Hospital at Brattleboro; Dr. Luther V. Bell, of the McLean Asylum for the Insane at Somerville, Mass.; Dr. C. H. Stedman, of the Boston Lunatic Asylum; Dr. N. Cutter, of the Private Institution at Pepperill, Mass.; Dr. John S. Butler, of the Connecticut Retreat at Hartford; Dr. Amariah Brigham, of the State Lunatic Asylum at Utica, N. Y.; Dr. Pliny Earle, of the Bloomingdale Asylum, N. Y.; Dr. James Macdonald, of the Private Institution at Flushing, L. I.; Dr. — Renney, of the Lunatic Asylum on Blackwell's Island, N. Y.; Dr. G. H. White, of the Hudson (private) Lunatic Asylum, N. Y.; Dr. Horace A. Buttolph, of the New Jersey Lunatic Asylum at Trenton; Dr. Thomas S. Kirkbride, of the Pennsylvania Hospital for the Insane at Philadelphia; Dr. Joshua H. Worthington, of the Friends' Asylum at Frankford, Pa; Dr. N. C. Benedict, of the Blockley Insane Asylum at Philadelphia; Dr. Fonerden, of the Maryland Hospital at Baltimore;

Dr. Wm. M. Awl, of the Ohio Lunatic Asylum at Columbus; Dr. John M. Galt, of the Eastern Asylum of Virginia at Williamsburg; and Dr. John R. Allan, of the Kentucky Lunatic Asylum at Lexington.

Dr. Samuel B. Woodward tendered his resignation of the Presidency of the Association, which was accepted, and Dr. Wm. M. Awl was elected President in the place of Dr. Woodward, resigned; and Dr. A. Brigham, Vice President, in the place of Dr. Allan, elected President. The following preamble and resolutions in reference to its late President, were unanimously adopted by the Association, viz:

WHEREAS, Dr. Samuel B. Woodward, at the present meeting of this Association, has tendered his resignation as President thereof,

Resolved, That whilst accepting this resignation, we cannot adjourn without declaring our high sense of the services of Dr. Woodward as President of this body, and also our full appreciation of his ardent and useful exertions for so many years in behalf of the unfortunate insane.

Resolved, That the Secretary of the Association be requested to transmit to Dr. Woodward a copy of this resolution.

Agreeably to appointment, Dr. Brigham read an obituary notice of the late Dr. White, of the Hudson Lunatic Asylum and the first Vice President of this Association, which was directed to be entered upon the minutes.

Dr. A. V. Williams and Dr. Benjamin Ogden, two of the visiting physicians of the Asylum on Blackwell's Island, were invited to attend the sittings of the Association; and a resolution was adopted, authorizing each member to invite any person interested in its discussions.

In conformity with a resolution, adopted at the last meeting of the Association, Drs. Brigham and Macdonald made written, and Drs. Earle, Rockwell, Bates, Butler, Allan and Kirkbride, verbal reports on the subjects of post-mortem examinations and the pathology of insanity, which, after consideration, were referred to the standing Committee on these subjects.

Dr. Kirkbride read a report from the committee on publication, which was accepted, and the Association subsequently resolved, That the committee on publication, appointed at the last meeting, be continued, and instructed to publish such of the reports and such parts of the reports made to this association, and such parts of its proceedings as they shall deem conducive to the public good.

Elevations and ground plans of many of the institutions for the insane in the United States and Canada were laid upon the table, for examination by the members of the Association;—also a great variety of carving and fancy work made by patients in the New York State Asylum,—and a number of ingenious buckles and other improved fixtures; intended to be employed on restraining apparatus, and sent to the Association by the maker, John D. Fisher, of Philadelphia.

Written reports were made on the following subjects, and after full discussion accepted, and laid upon the table, subject to future disposition by the Association, viz:—

On the comparative value of the different kinds of labour for patients, and the best means of employment in winter, by Dr. Rockwell; on the advantages and disadvantages of cottages for wealthy patients, adjacent to hospitals for the insane, by Dr. Kirkbride; on the relative value of the different kinds of fuel, for heating hospitals, by Dr. Bates; on the most economical mode of treating the insane of the poorer classes, by Dr. McFarland; on reading, recreations and amusements for the insane, by Dr. Galt; on the comparative value of treatment in public institutions and private practice, by Dr. White; and on the effects on the insane of the use of tobacco, by Dr. Cutter.

Remarks on the diseases and causes of death among the insane, were also read by Dr. Macdonald; on the statistics of insanity, by Dr. Earle; and a series of cases of mania-a-potu, treated by the inhalation of ether, in the Boston City Hospital, by Dr. Stedman.

Invitations were received and accepted, to visit the Bloomingdale Asylum, under the care of Dr. Earle, and the private Institution at Flushing, L. I., under the care of Dr. Macdonald; and both institutions were subsequently visited, and examined with great satisfaction, and the thanks of the Association tendered to these gentlemen for their courtesy, attention, and bountiful hospitality.

The Association also accepted an invitation to visit the Asylum on Blackwell's

Island, and, after a thorough examination of the buildings and arrangements, unanimously adopted the following resolutions:—

Resolutions respecting the Receptacle for Pauper-lunatics at Blackwell's Island.

The "Association of Medical Superintendents of the American Institutions for the Insane," holding their third biennial meeting in this city, have availed themselves of the kind invitation of the civil authorities superintending the receptacle for the pauper lunatics of this great metropolis, at Blackwell's Island, to visit and examine the unfortunate class there resident, and the provision made for their care, their amelioration, and their recovery.

It would be far more grateful to their feelings, could they leave this, as they do the other asylums for the insane, in this vicinity, which they have also examined, in silent but respectful regard at seeing great objects properly accomplished. In so doing, they would escape the unpleasant necessity of instituting painful criticisms in the face of personal civilities, and the hazard of being considered, by the unreflecting, as guilty of improper interference in the affairs of a community not their own.

Devoted as most of them have been for many long years of their lives to the care and restoration of those deprived of reason; familiar as many of them have been from personal examination, with the condition of this class of sufferers under the varying circumstances of the different communities of the old and new world; looking upon themselves, while citizens of widely separated states, yet common denizens of that republic of humanity that knows no state lines, they willingly venture all risk of being misunderstood and misrepresented, when they declare their conviction that the arrangements for the three or four hundred pauper lunatics of this city are far in the rear of the age, of the standard of other regions equally advanced in civilization and refinement, of the imperative demands of common justice, humanity and respect due to the image of a common Father, however much disfigured and changed.

They would, therefore, appeal to the authorities of this mighty and opulent metropolis of the western world, to sustain the honour of their leading position; to those who must feel that they and their children have no immunity against loss of property, of friends, and of reason; to those who recognize the obligations imposed by their own elevation and success to protect the friendless and miserable, to interpose their determined resolution no longer to permit the Empire City to stand below the demands of the age, in the justice, humanity, yea, in the common decency, with which those guilty of no crime, but stricken by the hand of Providence in the loss of reason, are treated. Suffer no longer, we implore you, those whose sensibilities are not extinguished, but may even be more intense, whose honest self-respect and pride of character are not always permanently obliterated, whose return to society and to usefulness is not elsewhere the rare exception, but the expected result; to be abandoned to the tender mercies of thieves and prostitutes, who are, to a considerable extent, the associates and keepers of this helpless charge, and clothed with all the delegated authority and influence which such a relation necessarily implies.

This Association has neither the means nor disposition to inquire why the pauper lunatics of this community should have been allowed to lapse into that depth of degradation and neglect, of which it would be difficult elsewhere to find a parallel.

Enough is it for them to know that such is the fact, notwithstanding plans and designs for every modern architectural requirement, as well as curative and ameliorating appliances, have been long in the hands, and subjected to the favourable criticism and comparison of those elsewhere charged with the same duties, and have been recognized as fully adequate to meet the exigency.

They have examined the recent report of the medical visitors, and conclude with them fully in their conclusions, as to the necessity of an entire change in the system; in the impossibility of doing all that justice, humanity, and a sound economy require for the insane, except at a cost of money sufficient to provide faithful, competent, respectable assistants or keepers, and adequate means of classification, inspection, labour, amusement, ventilation, and cleanliness. They believe a just economy requires the abandonment, or conversion to collateral uses merely, of

those miserable apologies for insane hospitals, known as the old and the new *mad-houses*; and that if the island is retained as a site for these institutions, the original design, fully satisfactory in its great outlines and principles, should at once be carried out to completion.

The following preamble and resolution were adopted by the Association, viz:

WHEREAS, in the selection of medical superintendents to American institutions for the insane, it is important to choose men with the highest qualifications, both as respects professional acquirements and moral endowments, therefore,

Resolved, That any attempt, in any part of this country, to select such officers through political bias, be deprecated by this Association as a dangerous departure from that sound rule which should govern every appointing power, of seeking the best men, irrespective of every other consideration.

The following resolutions were also adopted during the different sessions of the Association:

Resolved, That a committee be appointed to report to this Association, at its next meeting, the best terms for the classification and designations of the different forms of insanity, and also the best anatomical and pathological terms for the various parts of the brain, and a nomenclature of the diseases which prove fatal to the insane.

Resolved, That a committee be appointed to suggest the best plan of calling the attention of physicians in general practice to the proper treatment of the insane at their homes, and especially to their treatment during the first period of their disease.

Resolved, That the members of this Association be requested to prepare and present to a future meeting, a statistical analysis of all the cases of insanity which have been admitted into the different institutions under their care.

Resolved, That all subjects heretofore referred to committees, and not reported on at this meeting of the Association, be continued in the hands of the present committees for future action.

Resolved, That a committee be appointed who shall, either before or after our adjournment, select subjects and appoint members to report on the same, in writing, at the next meeting of the Association.

Resolved, That previous to the future meetings of the Association the secretary be requested to invite the Boards of Trustees, managers, or official visitors of each insane asylum on this continent, to attend the sessions of this body.

Resolved, That the thanks of this Association be tendered to Messrs. Coleman & Stetson, of the Astor House, for their very liberal provision for the meetings of the Association, and for which, on account of its benevolent objects, they have declined receiving compensation.

Resolved, That the thanks of the Association be tendered to the officers for the able manner in which they have performed the duties of their respective stations.

Resolved, That the Secretary be instructed to furnish an abstract of the proceedings of the Association to the editor of the American Journal of Insanity, and to the editors of the various Medical Journals in the United States, for publication in their respective periodicals.

The Association continued its sessions until the afternoon of the 12th of May, and then adjourned to meet in the city of Utica, N. Y., on the third Monday of May, 1849, at 10 o'clock, A. M.

By order of the Association,

THOMAS S. KIRKBRIDE, *Secretary*.

DOMESTIC SUMMARY.

Popliteal Aneurism successfully treated by Compression.—Dr. J. KNIGHT, of New Haven, relates, in the *Boston Med. and Surg. Journ.* (May 10, 1848), the following case of popliteal aneurism, successfully treated by compression:—

"On the 18th of October, 1847, I was consulted, at the request of Dr. D. A. Tyler, of this city, by Henry Johnson, a wood-sawyer, about 48 years old, for a tumour in the left ham—the left leg being the limb he uniformly stood upon whilst

at his business. This tumour Dr. Tyler considered to be an aneurism of the popliteal artery. For several months he had suffered from pain in the limb, especially below the knee, which the patient thought was rheumatism; and about two months before, had discovered a small tumour in the ham, which pulsated from the beginning, and which, as well as the pain, had been gradually increasing. I found the tumour of such a size as to occupy the whole of the popliteal space, and to press strongly upon the tendons of the flexor muscles, particularly those upon the outside of the limb. The leg, below the knee, was very painful and largely œdematous. All the symptoms of aneurism were so strongly marked as to leave no doubt concerning the nature of the affection. The action of the artery and the pulsation of the tumour were easily suppressed by very moderate pressure upon the femoral artery, either where it passes over the bone of the pubis or in the groin, or still lower down where it passes under the sartorius muscle. The patient was directed to lie in bed for a few days; and to relieve the severe pain he suffered, laudanum was administered in doses of 30 to 40 drops, and, when necessary, some of the common cathartics. By these means, employed for about a week, the œdema of the leg was cured, and the pain very much diminished; indeed, while in bed he was free from pain. The tumour, however, was unchanged in site or character.

"We now concluded to attempt a cure by pressure on the femoral artery above the tumour, upon the plan recently practised by Hutton, Bellingham and others. For this purpose we employed successively all the means which have been described—the hoop tourniquet, the calliper-shaped instrument, the common tourniquet, guarding the limb against the pressure of the strap by encasing it in thick sole leather, and by a variety of other mechanical contrivances. There was no difficulty in controlling the artery, either diminishing its action or suppressing it, by any of the instruments employed. By whatever instruments, however, the pressure was made, however carefully it was guarded, whether continued upon one point only or shifted from one part of the artery to another, the pain in a short time became so severe that it could not be borne. There was no difference, in this respect, whether the limb was left uncovered or enveloped in a bandage from the toes upward. The pain was not in the part pressed upon by the instruments, but in the whole limb below, and was felt about equally in the thigh, especially the outside of it, and the leg below the knee. The pain usually began in 25 or 30 minutes after the pressure was applied, and became intolerable in 15 or 20 minutes longer, so that it could not be continued in any instance longer than an hour. These efforts were continued at intervals for eight or ten days, and, as nothing had been gained by them, were abandoned. Others have met with the same difficulty, and have been compelled to apply a ligature to the artery.

"Before resorting to this, I concluded, with the concurrence of Dr. Tyler, to try manual pressure upon the artery. To accomplish this, a sufficient number of assistants was procured from the members of the medical class, who cheerfully offered their services. They were divided into relays—two keeping up the pressure for four or five hours, relieving each other every half hour, and these succeeded by two others, and so on. Sufficient pressure to suppress the pulsations of the tumour was found to be most easily made with the thumb or fingers, without a compress, upon the artery, as it passes over the os pubis; and the direction given to the assistants was to keep up this amount of pressure as nearly continuously as possible. This treatment was commenced at 3 P. M. No pain of consequence was produced by it for five or six hours; and then it was not severe, so that the patient was quieted by one-eighth of a grain of morphia once or twice repeated, and slept for the most part during the night. About eight hours after the pressure was applied, the temperature of the limb was diminished, and it appeared shrunken in size. At 11 o'clock next morning, 20 hours from the commencement of the treatment, upon removing pressure from the artery, the tumour had diminished very little, if at all, and pulsated about as strongly as ever, but the tibial arteries could not be felt. Probably the blood had ceased to enter them from the tumour during the night, in consequence of a coagulum forming in the artery where it left the aneurism. Upon examining the parts the next morning, about 40 hours from the commencement of the treatment, the tumour was found nearly one-third smaller in size, firm and unyielding on pressure, and entirely without pulsation.

All treatment was discontinued. The femoral artery pulsated with its usual strength in the groin, and distinctly as far as its passage through the tendon of the adductor muscles. Between this point and the tumour, it could not be felt. Several of the anastomosing arteries, especially one upon the inside of the limb, could be felt pulsating strongly and enlarged in size.

"From that time to this, a period of five months, no change has taken place in the limb, except that the tumour has gradually diminished in size so as now scarcely to be felt; and the leg, which at first was cold and weak, has nearly regained its natural temperature and strength.

"The peculiarity of this case consists in the manner of making the pressure upon the artery, by the hands of assistants instead of mechanical contrivances; and in the very slight pain which the patient experienced from it. The advantages of this mode of making pressure are such, that I should at once resort to it, if, upon trial, pressure by instruments was found to occasion much pain.

It is interesting to look back upon the improvement which has been made in the treatment of aneurism during the past one hundred years. It is but seventy years since the only treatment ordinarily adopted for an external aneurism, consisted in cutting into it, emptying it of its blood, and applying a ligature to the two ends of the artery. The danger of this operation, from inflammation and from secondary hemorrhage, was such that a large proportion of the patients died.

"The first and greatest improvement, and that which has led to all the others, was the plan devised, not guessed at, but fairly reasoned out with great sagacity from well-known physiological and pathological laws, by Mr. Hunter, of placing a ligature upon the artery at a distance from the aneurismal tumour. The success of this mode of operating has been so great, that surgeons had almost ceased to look for any improvement on it.

"Upon this plan, however, the treatment by pressure is a great improvement. It is one so simple, so easily practised even by those not familiar with surgical operations, and, so far as it has been tried, so entirely free from danger, that it well deserves to be employed in all cases to which it is appropriate. The principal objection to this plan, is the pain which it sometimes produces. This is mentioned in the cases which have been stated, as often severe, and, in some, intolerable. This objection is removed, if it should be found, that in other cases, as in the one which I have stated, manual, in the place of instrumental pressure, is so easily borne. One case does not prove that it will be so, but it is sufficient to encourage others to make trial of it. In some cases of aneurism, which are so near to the trunk of the body that pressure cannot be made upon the artery between it and the heart, it may perhaps be made upon the distal side of the tumour with success. If it is so situated that efficient pressure can be made upon the artery beyond the tumour and before any considerable branch is given off from it, coagulation of the blood will probably take place, and a cure be effected.

"The treatment by pressure would seem, also, to be adapted to some cases of traumatic hemorrhage; those especially where a deeply-seated artery is divided at the bottom of a narrow wound, as in the palm of the hand or the sole of the foot. The trouble and anxiety which attend such cases, are familiar to every surgeon. In such cases, continuous pressure for a long time would probably not be necessary. It is a well-known fact, that arteries, when wounded, bleed in paroxysms at varying intervals, usually of several hours, and that obvious symptoms precede the hemorrhage. These are, increased heat, pain, and throbbing of the arteries of the part wounded. If, when these symptoms appear, pressure is made upon the artery above, as upon the brachial artery when the wounded artery is in the hand, the period of increased action of the vessels of the part and of hemorrhage may pass by, when the pressure can be removed, to be renewed again with the reappearance of the symptoms, and continued thus at intervals until the wound in the artery is healed. I make this suggestion for those into whose hands a case of this kind may fall. The trouble to the surgeon, which attends this mode of treatment, is not to be taken into the account when the life of the patient is involved, or when he is to be saved from a severe surgical operation."

False Aneurism with Obliteration, probably congenital, of the Aorta.—A highly interesting pathological preparation exhibiting a false aneurism with obliteration

of the aorta, was communicated to the Philadelphia College of Physicians at their meeting on the 1st of February last, by Dr. WEST, with the following history, which we copy from the Transactions of the College.

"I. G., an Italian by birth, and by occupation a cabinet-maker, aged 32 years; 5 feet 6 inches high; remarkably muscular and athletic; with the superior half of his body more developed than the lower; was taken on the 9th of January last, at noon, with great pain and distress in the chest, in consequence of which, my attendance was demanded in great haste.

"The attack, which was represented by the messenger as *colic*, had seized him suddenly, the pain being attended with great nervous agitation and distress. On my arrival, the patient was lying *quite flat* on his back in bed, complaining of great pain in the cardiac region, but without any marked difficulty of breathing, and with no particular disturbance of the circulation, so far as was discoverable by the pulse. His countenance indicated suffering, but it was not flushed nor darkly suffused. No physical exploration, unfortunately, was made, his attack being regarded as chiefly nervous in character, and induced, it was thought, by great bodily and mental fatigue, incident to the recent illness of his wife, who had been removed but a week before, as a patient into the Insane department of the Pennsylvania Hospital. During her illness and afterwards, I had had occasion to see the husband frequently, but had never heard him complain of anything; he appeared, on the contrary, to be in the enjoyment of robust health.

"After his death, I learned that, on last New Year's Eve, he had been taken suddenly, whilst at a billiard room, with dyspnœa or orthopnœa, of such severity as to require him to seek support with his hands upon the window-sill, where he might also enjoy a larger supply of fresh air. This attack lasted for several minutes, but when it had passed over he was able to walk home without assistance. Agreeably to the views entertained of the nature of his affection, he was ordered to take portions of a mixture of Hoffman's anodyne, tinct. assafœtidæ and camphor: to have sinapisms applied to the ankles, and to maintain perfect repose both of body and mind.

"At 10 P. M. I found him much relieved of his dyspnœa and general distress, but he still complained of pain about the heart. At this visit he was lying flat on his left side in bed, and without any apparent embarrassment either of the respiration or circulation. His friends, considering him much better, had left him for the night. The next morning he arose as usual and took his breakfast; shortly after this he said to a friend who had called to see him, that he wished the Doctor could relieve him of 'this pain,' indicating, at the same time, its seat, by placing his hand over the heart. He had scarcely uttered these words when he suddenly fell on the floor and expired.

"*Autopsy*—Seven hours after death. Muscular system everywhere much developed; no congestion of the cutaneous surface. On exposing the interior of the chest, the pericardium, in its right half, was found deeply ecchymosed; within this sac was effused a pint of blood, fluid and coagulated, in about equal proportions. On removing this blood, an aneurismal tumour of the aorta was discovered, extending from the origin of this vessel to the point at which the great vessels are given off from it. The large veins were all turgid with blood. The aneurism was both *true* and *false* in its character, being constituted by dilatation of the aorta in all its coats, and, also, by the expansion of its fibro-serous or pericardial investment; this latter membrane was much thickened, but not otherwise changed in structure, having been detached from the whole surface of the vessel, throughout the extent already mentioned, viz., from its origin at the heart to the great vessels springing from its arch, forming in this way, the *external* or *false* aneurismal sac. This latter was capable of containing at least half a gill of blood. The pouch of the aorta, formed by its dilatation, would have lodged a small hen's egg. The external sac displayed, at the distance of an inch from the heart, an opening or slit, about six lines in extent, which gave issue, finally, to the blood into the general cavity of the pericardium.

"The aorta was reduced, at the point of dilatation, to the thickness of parchment, but was in no other way changed in structure. This artery, in the whole space comprised by the origins of its great vessels, did not exceed in capacity the left carotid. Upon the superior semi-circumference of the aorta, and at the distance of an inch from its valves, which by the way were only two in number,

existed an irregular opening, of about ten lines in diameter, with torn, fringed edges. The point of rupture, for such was the character of this opening, bordered immediately upon the heart. No morbid deposit was found in the coats of the aorta, nor did they present, in the neighbourhood of the rupture, any other unnatural appearances than those of thinness and dilatation. These latter changes, it is presumed, were occasioned by the constant obstruction to the course of the blood, interposed by the peculiar condition of the aorta now to be described. This latter constituted the most interesting feature in the morbid anatomy of the case. On tracing the aorta beyond the origins of the great vessels, its cavity was found to be *entirely obliterated*, at a point immediately beyond or to the left of the ductus arteriosus, the remains of this latter vessel existing in the form of a ligamentous-like cord. The aorta presented at the point of obliteration, a well-defined and regular contraction, which looked exactly as if it had been produced by a ligature thrown around the artery, the closure of its cavity being occasioned simply by the approximation of its sides. No tumour or any other source of compression existed either at, or in the neighbourhood of, the stricture. Beyond this, the vessel immediately resumed very nearly its natural dimensions, and so continued throughout its course. It gave origin, in its whole length, to the usual branches; the upper pair of intercostals coming off immediately below the stricture.

"The blood, therefore, in order to reach these vessels, was obliged to take a very circuitous route, viz., from the aorta into the subclavians, thence, as will be seen, through the internal mammaries and epigastrics, to the external iliacs, and finally, from these latter it had to *pass up* the aorta towards the heart, thus reversing entirely the natural currents. The great power of the heart in propelling the blood is well illustrated by the present case.

"The large vessels springing from the arch of the aorta were much enlarged in capacity, especially the subclavians, which, as already intimated, were chiefly instrumental, by means of the internal mammaries and other branches, in keeping up the circulation between the heart and lower parts of the body. All the subclavian branches were increased in number and capacity, and so also were the vessels from below, with which they freely inosculated. The heart was generally enlarged and its walls thickened, but in neither of these respects to any remarkable extent. The internal mammary arteries, which pursued their course along the thoracic parietes in a *very tortuous* manner, were fully as large as the external iliacs, and so were the epigastric arteries; these vessels, viz., the mammaries and epigastrics, as already stated, constituting the main channels for keeping up the connection of the circulation above and below the aortic stricture.

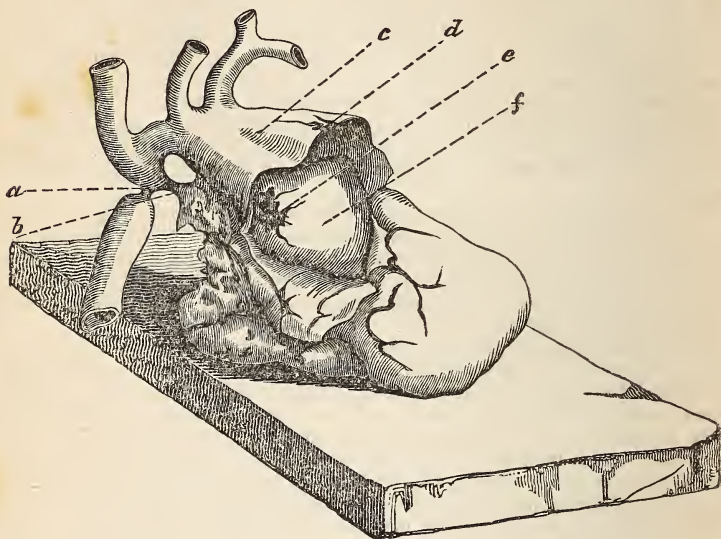
"In regard to the obliteration of the aorta, the question at once arises, was it not, in all probability, congenital? Such, we believe, to have been the fact, since it can hardly be imagined that the walls of this vessel, at any time after birth, could have commenced and maintained the close approximation necessary to ensure entire occlusion, without the aid of some extrinsic compulsory force, and nothing of this kind was revealed by dissection. We leave to the surgeon to determine the value of such cases in its bearing upon the operation for tying the aorta.

"Independently of its abnormal anatomy, the case is interesting in a pathological point of view, as exhibiting the want of relation between the morbid lesions found after death, and the *rational* symptoms exhibited by the patient during life.

"The physical signs, had they been consulted, might have revealed the aneurismal character of the disease, though they could not possibly have instructed us how to avert the necessarily fatal result. During the last week of his life, the patient had been constantly under our notice, and yet within this period, he had never, we believe, complained of the slightest feeling of indisposition. The dilatation of the aorta, to a greater or less degree, had no doubt existed for a long period, probably from birth; but of this we cannot be certain. The period, however, at which the blood found its way through the ruptured aorta into the external aneurismal sac, may be pretty satisfactorily conjectured, we think, by reference to the symptoms of the case. Was not the dissection of this fibro-serous covering of the aorta, by the gradual escape into it of the blood, the cause of the severe local pain in the chest felt by the patient within such circumscribed limits, and which, it will be recollected, was the prominent, indeed the only marked symptom?

Such, we conceive, would be a natural consequence of the disruption of this fibrous covering of the aorta, from its close attachment to the vessel. Owing, too, to the firmness of this connection, the formation of the external sac must have been very gradually accomplished, and unattended therefore, with any marked sensation on the part of the patient, until by its great distension it began to give rise at times to the pain complained of. The bursting of the external aneurismal sac was, of course, the immediate cause of the rapidly fatal result.

"The annexed drawing presents a very faithful representation of the aneurism after its rupture, and the contraction and obliteration of the aorta."



- a. Point of stricture of the aorta.
- b. Remains of ductus arteriosus.
- c. External aneurismal sacs

- d. Opening of external sac.
- e. Seat of rupture of the aorta.
- f. Aorta dilated.

Case in which a Corpus Luteum in Process of Formation was found coinciding with Menstruation. (Charleston Medical Journal, Jan. 1848.)—Dr. MYDDLETON MICHEL, in an interesting article "On the Dependence of Menstruation upon the Development and expulsion of Ova," relates the following case in which he found a corpus luteum in the process of formation, coinciding with menstruation.

The subject of this case was a woman convicted of murder, and executed on the 10th of Sept., 1847. At the post-mortem examination which was conducted by Drs. Gaillard, De Saussure and Cain, Dr. Michel requested that the internal organs of generation should be closely inspected.

"Upon the removal of the uterus and its appendages," says Dr. M., "we remarked that there was no perceptible increase of size in the parts, though evident signs of congestion were detected, particularly in the tubes. The mouth of the uterus was slightly opened, tumefied, and its orifice dripping with blood. A vertical incision being made through the organ, the internal surface was found coated with blood, though the congestion of its mucous lining membrane was particularly confined to the upper part, about the entrance of the tubes. The stroma of the ovary of the right side presented a number of vesicles working their way towards the surface, and on the surface one or more vesicles, in progress of development, containing a quantity of clear fluid which was ejected with much force as they were opened. In the ovary of the left side several others were also present, but on the anterior surface we discovered a ruptured Graafian vesicle, whose orifice

was partially closed by a clot of blood. This was evidently the one which had just discharged its ovulum. But being unprovided with the proper instruments, by the mutual suggestion of Dr. Gaillard and myself, I took this rare specimen with me to examine it carefully.

"I apprehend I can clearly establish, from the condition in which I found the vesicle, that Jane was not pregnant, and that menstruation had only begun a day or two. She was incarcerated some weeks previous to her execution, and her anxiety and suspense before she was apprehended, incline one to believe that her every thought must for some time have been directed to her approaching fate. But a better argument is furnished by the vesicle in question, for its rupture had positively just occurred, and here are the proofs: the opened vesicle was only partly closed by a clot of blood; the granular membrane surrounded this, even protruding through the opening. Under the microscope a fragment of this membrane exhibited its usual appearance of little hexagons arranged like mosaic work. I called the attention of Drs. R. Motte and Hunt to this membrane, who were present when I examined it. Cutting through the vesicle, I found its large cavity filled with the clotted blood which is the immediate cause of its rupture, and removing this coagulum, the inner tunic displayed great vascularity, its vessels ramifying over its surface like the artery on the retina. This membrane was not yet folding to constitute the corpus luteum.

"To those acquainted with the subject, it will be plain that rupture had recently occurred, and consequently that the ovum had not long escaped. I therefore diligently searched for the egg, knowing that if discovered, this would be the only case of the kind recorded. I was not fortunate in the attempt; the egg was in the tubes, but these were so corrugated (a condition in which all the other organs of like structure participated as perhaps the result of strangulation), that it was impossible to open them. The surface of the uterus was then carefully inspected with a strong lens, but nothing was discovered. The mucous membrane was not hypertrophied, neither were the uterine crypts nor glands visible as I have seen them during this period. I therefore conclude from this point, associated with the fact of the congestion being greatest at the entrance of the tubes, that menstruation had just commenced, and finally that this excitement commences in the ovaries, passes next to the tubes, and then encroaches upon the surface of the uterus. This last remark perhaps is worthy of notice, as I believe it has never been expressed."

Fracture of the Neck of the Femur within the Capsule—bony union.—Dr. N. W. CONDIR relates in the *New Jersey Medical Reporter* (April 1848), a case of fracture of the neck of the femur occurring in a gentleman over 80 years of age. The accident happened in May, and the patient died early in the following November. The following were the *post-mortem* appearances.

"The muscles and all the structure about the cervix-femoris were more pale than usual, and scarcely gave out any blood upon being cut into. The capsular ligament was entire, giving no appearance of having been lacerated; its texture was somewhat thickened. The ligamentum-teres was in a state of vascularity, which gave it about the colour of the muscles around the joint, though it retained its wonted firmness and strength. The acetabulum was normal in appearance. The neck of the femur was shortened, and on opening the capsule the fracture was discovered wholly within it. The head of the bone had been broken across transversely, exactly at its point of union with the neck, and about two lines from the bony edge of the acetabulum. The ridge characteristic of the seat of fracture had been thrown out, and the re-union was firm for rather more than three-quarters of the circumference of the bone. The limb having been drawn up by the contraction of the muscles, a considerable angle was formed by the head and neck at their point of juncture, but they were as firmly united by osseous formation as if they had never been separated. On the upper side, where the fractured edges were not in apposition, union was not yet complete, but ossification was going on upon all the broken surface, and had the patient lived a few months, would doubtless have been perfected. Could the state of the injured part have been by any means ascertained, and had not the condition of the ankle forbidden it, the patient, I think, might safely have walked; there was sufficient firmness at the fracture for the limb to have contributed its share of support to the trunk. From

a fear lest some accident should befall the specimen in handling it, I left it with a mechanic to have the head protected by a covering of wire. He placed it for safe-keeping in a desk in his room, belonging to another man, who removing the desk in his absence, threw out the bone, supposing it to be of no value, and though diligent search was made, it was not recovered. I had the preparation in my possession for two or three years, and during that time it was shown to many members of the profession, who expressed but one opinion, that it was a case in which a complete fracture entirely within the capsule was re-united by ossification."

Spina Bifida Treated by Injection of the Tincture of Iodine.—Prof. D. BRAINARD relates (*Illinois and Indiana Med. and Surg. Journ.*, Jan. 1848), a case of spina bifida treated with injection of tincture of iodine. The patient, a girl of 13 years of age, had a tumour at the top of the sacrum nine inches in circumference and about three in height, with thin walls. She had been paralytic in the lower members, but within three years had acquired a partial use of them. She was idiotic, and passed both the feces and urine without regard to place. From neglect of cleanliness, numerous ulcerations and large cicatrices had, from time to time, been formed upon the pelvis and thighs.

Under these almost hopeless circumstances, Dr. B. determined to inject into the sac a solution of iodine, with a view of exciting inflammation and procuring absorption. This was done on the 2d Dec. 1847, in the following manner:—A small puncture was made with the lancet on the sound skin about half an inch from the base of the tumour and a trochar of the size of a common knitting needle carried obliquely into the sac. Through the canula of this a solution of gr. j of hyd potass. with gr. ss of iodine in fʒi of water, was thrown into the sac and the instrument withdrawn. A sharp pain followed, which soon subsided. Compresses and a bandage were applied to prevent the escape of the fluid, and the child was laid in bed. There succeeded redness, heat and tension of the tumour with tenderness to the touch and some febrile symptoms, for which a cathartic was administered and evaporating lotions applied to the part. In the course of a week these symptoms subsided, and the tumour became soft, yielding, and diminished in size. Compression by means of a roller around the pelvis was then applied, and kept up with as great degree of force as could be borne, but the filthiness of the patient and her indocility prevented this from being applied with regularity. It was frequently removed for twelve hours or more at a time. Still it diminished, and on the 27th Dec. was about half its former size.

"At this time a second injection was used of half the strength of the first. This produced but little heat or pain, and the compression was continued. On the 15th Jan. 1848, the fluid was so far absorbed as to render it easy to press it down almost to a level with the surrounding skin. A spring truss was then substituted, and at the present time the sac lies in wrinkles, the bony opening can be distinctly felt, and there is no increase of swelling when the pressure is removed. Recently there has been manifested a decided improvement in the intellect of the child; the other difficulties remain the same; but with the removal of the cause, the partial paralysis will doubtless gradually disappear. The retention of the natural evacuations must depend upon the development of the intelligence, and the gaining of a control over the voluntary muscles. In its present condition, this case shows that the injection of a solution of iodine, followed by suitable treatment, is capable of curing an ancient case of hydrorachitis, and (so far as a single case can be taken as a guide) with but little danger. Further experience will be required to determine the strength and quantity of the medicine to be used, the frequency of the repetitions; in younger subjects than this, it is obvious that the dose employed should be not more than a fourth of that used at first in this case."

This certainly will be considered by most surgeons an extremely hazardous proceeding, and in its extenuation Dr. B. says "that a number of facts have, within the last few years, come under our observation, tending to show that serous membranes are, when filled with serum, much less disposed to inflammation than when in a healthy state. Experiments are required to show which among the astringent and stimulating fluids can be brought in contact with them with least danger; meanwhile the safety with which solutions of iodine may be thrown into the large articulations, into the sac of a congenital hernia, and in some instances into the peritoneum, and in this case into the arachnoid membrane, will free us

from the charge of presumption in suggesting that it, or some other solution, may be worthy of trial in those cases of hydrocephalus, ascites and hydrothorax, which are hopeless under ordinary treatment."

Foreign Body in the Trachea—Tracheotomy—Cure. By WM. DAVIDSON, of Madison county, Ind. (*Western Lancet*, May, 1848.)—The subject of this case was a child four years of age, into whose trachea a grain of corn had slipped. When seen by Dr. Davidson, half an hour after the accident, the child presented the following symptoms:—"Distressing and prolonged paroxysms of cough, terminating in emesis, and resembling in character cynanche tracheitis; indeed, so much so, that, without the previous history of the case, they might, even by experienced men, be readily mistaken for this disease; deep and laboured inspiration, with a purple countenance; the pulse slightly accelerated. Finding that the respiration became gradually easier, the periods of cough more distant from each other, and that the parents were much averse to an operation, it was resolved to allow the patient to rest, and, if possible, to obtain some sleep." During the night the patient slept for some hours, and the next day the symptoms were much ameliorated. The following day, however, every symptom became aggravated; "the cough was constantly present; inspiration appears to be painful, and made with much effort; countenance sunken, and of a leaden hue; the whole body bathed in a cold clammy perspiration.

"For the first time a foreign substance could be distinctly heard, during respiration, to pass up and down the trachea. It now became abundantly manifest, that suffocation was impending, and that without a resort to tracheotomy, dissolution was not far off. Thirty drops of chloroform, poured on a handkerchief, and laid over the nose and mouth of the patient, produced in less than a minute an unconscious state. Dr. D. immediately commenced the operation by an incision, a line or two above the cricoid cartilage, and extending downwards, in front of the trachea, for about two inches. In consequence of considerable venous hemorrhage, though the trachea was soon exposed, a half hour elapsed before an opening was made into it. At the end of that time, hemorrhage having ceased, four rings of the windpipe were divided, when, upon the first expiration, attended by a cough, a large sized grain of maize, which already showed signs of germination, was immediately ejected with considerable force.

"The edges of the wound were brought together by adhesive strips: and the child recovered without the appearance of any untoward symptoms.

"During all this time the patient was more or less under the influence of chloroform, which, of course, was renewed from time to time, as symptoms of returning consciousness made themselves apparent."

"Doubts," Dr D. remarks, "might suggest themselves to the minds of many, as to the propriety of using chloroform in tracheotomy, from a dread that its sedative influence on the eighth pair would be such as to prevent coughing—an act almost essential to the expulsion of a foreign body from the trachea. I confess that I participated in these fears, which the event proved to be groundless; and it was only at the solicitation of Drs. Holcombe and Hodges, that I was induced to give chloroform a trial. No one but he who has operated on the trachea, with and without the chloroform, can sufficiently appreciate the value of this agent in tracheotomy. Without chloroform, in addition to the struggles and resistance which the child offers in ordinary cases, there is superadded, from the loud cries, alternate elevation and withdrawal of the trachea to a considerable depth. All those inconveniences are avoided with its use, and the embarrassments to be encountered are only such as appertain to an operation in any other region of the body."

Expulsion of two Fœtuses of unequal size at the same time. (*Charleston Med. Journ.*, Jan., 1848.)—Dr. ELIAS HORLBECK relates the following interesting case, to which he was called on the 27th of June, 1847.

The patient, a coloured woman, had passed two menstrual periods, and was supposed to be about two months advanced in pregnancy. After undue exertion, she was seized with the most profuse flooding, which was arrested by the use of appropriate measures, and the woman made a rapid recovery. Dr. H. concluded

that the product of conception had been lost, as he had never seen a case in which there was such profuse flooding where the fœtus was preserved.

The patient afterwards suffered from occasional small hemorrhages, until Dr. H. was again called to see her, Oct. 16th, three months and nineteen days after the first attack, with profuse flooding, which had commenced two days previously. She stated that she had increased in size and in the regular course; had felt the movement of the child; that her breasts and abdomen had enlarged with all the other symptoms of gestation. The os uteri was open, pains were occurring at regular intervals, and things had gone so far that Dr. H. administered ergot to hasten the discharge of the embryo; after the first dose a well grown fœtus of between five and six months was expelled, which, her mistress stated, palpitated some time after its birth. The flooding was now checked, and the placenta was in the course of the evening discharged. On dissection it exhibited the following appearances. The placental mass was of considerable size, having a large ruptured sac on one side, lined with the amnion, from the centre of which sprung the umbilical cord. The maternal surface of the whole mass presented a fresh appearance, as if just separated from the uterus; on close examination, it could be divided into two unequal masses, connected with the smaller of which, was perceived a smaller fœtus enveloped with its usual coverings. The transparent amniotic covering containing a clear fluid, in which was floating a fœtus some seven or eight lines in length. The sac being opened, the embryo was recognized sound, fresh and plump and life-like in its whole appearance, presumed from its development to be about six weeks old. The features of the face, such as the eyes, mouth and nose, were distinctly visible, its thoracic and abdominal members about two lines in length, its abdomen completely closed. The umbilical vesicle was distinctly visible and filled with fluid. The cord had no swellings or bulgings in its course, but was of the same size throughout.

Abnormal Distribution of the Thyroid Arteries.—Prof. JAMES BLAKE describes in the *St. Louis Med. and Surg. Journ.* (June 1848), the following case of abnormal distribution of the thyroid arteries, which is interesting from the circumstance that in the subject in which it occurred, neither the operation of tracheotomy nor laryngotomy could have been performed without great danger of sacrificing the life of the individual. The subject in which it occurred, was a male about forty years of age, brought into the dissecting room of the St. Louis University, during the past session. The first anomaly that presented itself on dissecting the arteries going to the head and neck, was that of a considerable artery about the size of a quill, arising from the anterior and superior of the innominata, passing upwards and crossing the trachea about three-quarters of an inch above the sternum. After proceeding about two lines beyond the mesial line, it again turned to the right and crossed the mesial line about a quarter of an inch before the isthmus of the thyroid body, and proceeded to divide into branches along its lower edge on the right side.

On dissecting the superior thyroid arteries, it was found that the artery of the right side arose from the external carotid, at the place where it is generally found; but here it was seen to be much larger than usual; it proceeded downwards to the upper and outer angle of the thyroid body, but instead of dividing into its terminal branches, as it generally does, it turned forwards and to the left, running along the upper edge of the cricoid cartilage, or between it and the thyroid cartilage, and lying on the crico-thyroid muscle; it continued this course until it passed rather beyond the mesial line, crossing the crico-thyroid ligament. During its course, it sent branches downwards to the upper edge of the right side of the thyroid body, and the isthmus and its terminal branches were distributed to the left lobe of the thyroid body. The artery where it crossed the crico-thyroid ligament was as large as a crow-quill; there was no large anastomotic branch uniting with the superior thyroid artery of the opposite side, which was rather smaller than natural. The inferior thyroid arteries were natural, but that of the right side rather larger. The thyroid body was rather above the natural size, and somewhat more dense in its structure, and less red than it is generally found—the isthmus was broad, extending as far as the lower edge of the cricoid cartilage. From the above description it is evident that neither the operation of tracheotomy nor laryngotomy could have been performed in this subject without incurring the

greatest risk of wounding an artery, the bleeding from which might, under the circumstances, even have led to a fatal result.

Iodide of Potassium a Cure for Nurses' Sore Mouth.—Dr. H. D. HOLT states (*New York Journ. of Med.*, May 1848), that every case he has treated of this disease "has yielded within forty-eight hours to the use of iodide of potash in gr. v. doses three times a day."

Geranium Maculatum a cure for Mercurial Salivation.—Dr. GEO. M. MACLEAN has used in one case of mercurial salivation, he says, (*New York Journ. Med.*, May 1848,) an infusion of the *Geranium Maculatum* as a lotion with speedy and entire relief.

Case of Chronic Tetanus successfully treated by Ether Inhalation.—Dr. ISAAC PARRISH read to the Philadelphia College of Physicians, March 7th, (*Trans. Coll.*, vol. ii. No. 4,) an interesting case of phlegmonous erysipelas, commencing in the finger and extending up the hand and arm. Rigidity of the jaws supervened on the sixth day, followed by shooting pains up the limb to the neck and jaws. The preparations of opium, assafoetida, &c., having failed to make any impression, the inhalation of ether was tried on the seventh day, and it produced a most favourable anodyne effect, causing several hours refreshing sleep. The inhalation was repeated on the eighth day also with a favourable effect. Convalescence from this time was confirmed, and the patient recovered.

American Medical Association.—A full abstract of the proceedings of the Association, at its first annual meeting held in Baltimore in May last, having been given in the *Medical News and Library* for June, it is sufficient at present to state that the meeting was a most delightful one, that the deliberations were characterized by great harmony, and that the utmost zeal was manifested for the advancement of the profession. The volume of Transactions, which is now in press, will soon be published, when we shall hasten to lay before our readers an account of the highly interesting reports and memoirs read to the Association.

The following are the officers and standing committees for the present year:—

President.—Dr. A. H. Stevens, of N. Y.

Vice Presidents.—Drs. John C. Warren, Mass., Samuel Jackson, Pa., W. M. Aul, Ohio, and Paul F. Eve, Ga.

Secretaries.—Drs. Alfred Stillé, Pa., and H. I. Bowditch, Mass.

Treasurer.—Dr. Isaac Hays, Pa.

Committee of Arrangements.—Dr. Jacob Bigelow, *Chairman.*—Drs. E. Hale, Z. B. Adams, J. C. Dalton, John Ware, O. W. Holmes, and H. I. Bowditch, Boston.

Committee on Medical Sciences.—Dr. L. P. Yandell, Ky., *Chairman.*—Drs. S. M. Smith, Columbus, O., J. F. White, Cin., E. S. Carr, Vt., Samuel Jackson, (late of Northumberland,) Pa., G. S. Upshur, Va., and S. H. Harris, Tenn.

Committee on Practical Medicine.—Dr. D. F. Condie, Penn., *Chairman.*—Drs. W. W. Gerhard, Pa., M. Clymer, Philada., John Ware, Boston, Grafton Tyler, D. C., J. Fithian, N. J., and M. Z. Kreider, Ohio.

Committee on Surgery.—Dr. N. R. Smith, Md., *Chairman.*—Drs. H. F. Askew, Del., W. H. Baxley, Balt., J. Knight, Conn., J. Pancoast, Phila., H. H. McGuire, Va., and A. B. Shipman, Ind.

Committee on Obstetrics.—Dr. B. R. Welford, Va., *Chairman.*—Drs. J. F. Peebles, Va., Noble Young, D. C., Z. B. Adams, Mass., C. R. Gilman, N. Y., J. A. Eve, Ga., and R. Rouse, Ill.

Committee on Medical Literature.—Dr. J. P. Harrison, Ohio, *Chairman.*—Drs. G. Fries, Ohio, W. G. Edwards, Ill., W. M. Latta, Ind., O. W. Holmes, Mass., R. S. Stewart, Md., and J. M. Thomas, D. C.

Committee on Medical Education.—Dr. F. Campbell Stewart, N. Y., *Chairman.*—Drs. John Watson, N. Y., J. M. Smith, N. Y., A. L. Pierson, Mass., S. H. Pennington, N. J., P. C. Gaillard, S. C., and D. Meeker, Ind.

Committee on Publication.—Dr. I. Hays, Phila., *Chairman.*—Drs. A. Stillé, Phila., H. I. Bowditch, Mass., D. F. Condie, Phila., J. R. W. Dunbar, Md., B. F. Barker, Conn., and J. Jump, Del.

The next meeting of the Association will be held in Boston on the first Tuesday in May.

UNIVERSITY OF PENNSYLVANIA.

At a Public Commencement held April 8th, 1848, in the Musical Fund Hall, Locust Street, the Degree of Doctor of Medicine was conferred by the REV. JOHN LUDLOW, D.D., Provost, upon the following gentlemen; after which an Address was delivered by JAMES B. ROGERS, M.D., Professor of Chemistry.

NAME.	STATE.	SUBJECT OF ESSAY.
Abercrombie, Charles T.	Russel, Ala.,	Cataract.
Alexander, John B.	Elbert, Ga.,	Dysmenorrhœa.
Anderson, James H.	Talbot, Md.,	Different modes of dying.
Barnett, A. W.	Wilks, Ga.,	Inflammation.
Barton, Howard T.	Fredericksburgh, Va.,	Dysentery.
Beale, C. William	Orange, Va.,	Congestive Remittent Fever.
Benton, John H.	Jefferson, N. Y.,	Induction of Premature Labour.
Berluchy, Samuel L.	Adams, Pa.,	Vis Medicatrix Naturæ.
Bieber, Edwin H.	Berks, Pa.,	Digestion, &c.
Blanding, A. Ormsbee	Bristol, Mass.,	Medical Topography.
Brooks, Robert	Stokes, N. C.,	Melæna.
Brown, Samuel D.	Kings, Nova Scotia,	Digestion.
Bruce, George W.	Frederick, Va.,	Acute Rheumatism.
Bryant, John D.	Philadelphia, Pa.,	Phthisis Pulmonalis.
Buckman, Edwin D.	Bucks, Pa.,	Dysentery.
Burgess, John	Allegheny, Pa.,	Animal Heat.
Burton, George W.	Rutherford, Tenn.,	Cholera Infantum.
Busey, Samuel C.	Montgomery, Md.,	Cholera Infantum.
Campbell, Edward M.	Abingdon, Va.,	Circulation of Blood.
Carter, Cassius	Fairfax, Va.,	Remittent Fever.
Chamberlain, George G.	Philadelphia, Pa.,	Puerperal Convulsions.
Chandler, Chas. Quarles	Louisa, Va.,	Duties of the Physician.
Christian, Edmund	New Kent, Va.,	Dysentery.
Claiborne, James W.	Richmond, Va.,	Insanity.
Clanton, S. W.	Sumpster, Ala.,	Cynanche Trachealis.
Coffey, Henry T.	Blair, Pa.,	Importance of Cultivating Medicine as a Science.
Comegys, Cornelius G.	Kent, Del.,	Hemorrhage.
Cooper, C. Campbell	Philadelphia, Pa.,	Electricity the Nervous Force.
Davis, Uriah Q.	Union, Pa.,	Intermitting Fever.
Davis, William H.	Granville, N. C.,	Febris Intermittens.
Dawson, John	British Burmah, E. Ind.,	Theory of Cholera—Asiatica, Epidemica.
De Jarnette, Joseph P.	Antauga, Ala.,	Bilious Remittent Fever.
De Jarnette, Joseph S.	Spottsylvania, Va.,	Modus Operandi of Cold.
Drake, Osborne L.	Powhatan, Va.,	Urine, with its Pathological changes.
Dungan, Jacob S.	Philadelphia, Pa.,	Respiration.
Duvall, Lloyd T.	Frederick, Md.,	Dyspepsia.
Duvall, Marius	Annapolis, Md.,	Modus Operandi of Medicines.
Edgeworth, S. Carpenter	Houston, Ga.,	Congestive Fever.
Edmunds, Benjamin C.	Halifax, N. C.,	Asiatic Cholera.
Ely, Edward	Bucks, Pa.,	The Vital Functions, &c.
Fairlamb, George A.	Centre, Pa.,	Red Disc of Blood.
Farley, George S.	Montgomery, Ala.,	Pleuritis.
Farrar, John O. F.	St. Louis, Mo.,	Dysmenorrhœa.
Farrar, John S.	Howardsville, Va.,	Cynanche Trachealis.
Fassitt, Louis	Philadelphia, Pa.,	Theory and Art of Prescribing.
Filbert, Charles K.	Berks, Pa.,	Dysentery.
Forney, Jacob	Huntingdon, Pa.,	Leucorrhœa.
Gambel, William	Philadelphia, Pa.,	Organic Forms or Species.
Gayley, James F.	Richmond, Va.,	Etiology of Intermittent and Remittent Fever.
Getty, Thomas Murray	Elizabeth, Va.,	Colica Pictorum.
Gibson, Henry C.	Cooper, Mo.,	Bilious Remittent Fever.
Gleaves, Samuel C.	Buffalo Ford, Va.,	Colica Pictorum.
Goodwyn, John P.	Dinwiddie, Va.,	Circulation of the Blood.
Gould, P. F.	Nashville, Tenn.,	Congestive Fever.

NAME.	STATE.	SUBJECT OF ESSAY.
Green, Charles D. Jr.	Smyrna, Del.,	Reflex Function of the Spinal Cord.
Grinnan, Andrew G.	Fredericksburgh, Va.,	Dyspepsia.
Gustine, John W.	Juniata, Pa.,	Acute Enteritis.
Hale, Elias W.	Mifflin, Pa.,	Pneumonia.
Hall, George D.	Gaston, Ala.,	Uterine Hemorrhage.
Halsey, R. S.	Dinwiddie, Va.,	Acute Rheumatism.
Hamlet, John A.	Charlotte, Va.,	Cholera Infantum.
Hamm, Samuel F.	Howard, Mo.,	Typhoid Fever.
Harris, Charles M. B.	Philadelphia, Pa.,	Cynanche Trachealis.
Harvey, Richard H.	Gibson, Tenn.,	Pneumonia.
Haskins, William D.	Oakly, Va.,	Cause of Disorder in Pregnancy.
Hawes, Ellington C.	Lincoln, Ga.,	Heat as a Vital Stimulus.
Heger, Anthony	Vienna, Austria,	Ethyl.
Heiskell, Milton Y.	Morganton, Tenn.,	Intermittent Fever.
Hewson, D. C.	New Orleans, La.,	Fistula in Ano.
Heywood, Frederick	Worcester, Mass.,	Gonorrhœa.
Hobson, A. W.	Clinton, Ala.,	Treatment of Bilious Remittent Fever.
Hollinshead, Frank	Stroudsburg, Pa.,	Cynanche Trachealis.
Hooper, William H.	Philadelphia, Pa.,	Carcinoma.
Horsley, Frederick Cabell	Nelson, Va.,	Scrofula.
Houston, James H.	Iredell, N. C.,	Gastro Enteritis.
Huie, George William	Louisville, Ky.,	Quantity of Blood in the Brain.
Hutchison, Ebenezer Nye	Cabarrus, N. C.,	Physiology of the Encephalon.
Hutchison, Joseph C.	Mo.,	Staphylocorphy.
Hyland, Christopher H.	Princess Ann, Md.,	Bilious Remittent Fever.
Jeffreys, Leonidas A.	Wake, N. C.,	Febris Intermittens.
Jenkins, Foster J.	Mass.,	New Anæsthetic Agents.
Jones, Geo. Wymberley	Savannah, Ga.,	Endosmose.
Jones, Walker F.	Gloucester, Va.,	Bilious Remittent Fever.
Jones, W. A.	Greensborough, Ala.,	Pulmonitis.
Kelley, William D.	Lebanon, Tenn.,	Wounds of the Abdomen.
Kennedy, Alfred L.	Philadelphia, Pa.,	Solubility of the Gases.
King, John S.	Franklin, Pa.,	Hæmoptysis.
Kinloch, Robert A.	Charleston, S. C.,	Temperature, as concerned in the Causation of Disease.
Knighton, Nicholas S.	Anne Arundel, Md.,	Sulphate of Quinia.
Kollock, Cornelius	Cheraw, S. C.,	Hemorrhagia Uterina.
Langhorne, Daniel A.	Campbell, Va.,	Cynanche Trachealis.
Lemmon, Horatio S.	Fauquier, Va.,	Epidemic Typhoid Fever.
Lemoine, Edwin S.	Petersburgh, Va.,	Nourishment of Fœtus.
Lewis, James S.	Orangeburg, S. C.,	Capillary Circulation.
Little, John Andrew	Delaware, Ohio,	Cynanche Trachealis.
Lukens, Isaiah	Montgomery, Pa.,	Phrenitis.
Macklin, Benjamin R.	Brunswick City, Va.,	Hepatitis.
Manly, L. Cheves	Raleigh, N. C.,	Dyspepsia.
Massie, William F.	Alexandria, Va.,	Intermittent Fevers.
Mehaffey, William Kerr	Marietta, Pa.,	Treatment of Syphilis.
Moore, Thomas	Philadelphia, Pa.,	Tetanus.
Mosley, William A.	Lincoln, Ga.,	Physiology of Digestion.
Mullen, John W.	Philadelphia, Pa.,	Pneumonia.
M'Cabe, John	New Castle, Del.,	Acute Hepatitis.
M'Kelvy, James B.	Columbia, Pa.,	Pneumonia.
M'Mackin, William C.	Philadelphia, Pa.,	Acute Iritis.
M'Reynolds, H. W.	Columbia, Pa.,	Erysipelas.
Oliver, William W.	Madison, N. C.,	Scarlatina.
Owen, John D.	Carthage, Tenn.,	Retention of Placenta.
Pence, Philip	Pickaway, Ohio,	Intermittent Fever of Pickaway.
Percivall, Charles-Fred.	Frederick, Md.,	Ulmus Fulva.
Person, Willie M.	Franklin, N. C.,	Scarlatina.
Pillow, N. B.	Carthage, Tenn.,	Pneumonia.
Pollard, James R.	Albemarle, Va.,	Prolapsus Uteri.
Porter, Ransom N.	Franklin, Mass.,	Treatment of Inflammation.
Pulliam, John Junius	Sommerville, Tenn.,	Cholera Infantum.
Pumphrey, N. N.	Ohio, Va.,	Effects of Light.
Purnell, Thomas H.	Benton, Mo.,	Hepatitis.
Rhoads, Jacob	Northumberland, Pa.,	Anatomy of Inguinal Hernia.
Rives, Nathaniel F.	Petersburgh, Va.,	Spina Bifida.

NAME.	STATE.	SUBJECT OF ESSAY.
Roberts, A. V.	Miss.,	Physiology of Menstruation.
Robins, S. W.	Ala.,	Gonorrhœa.
Robinson, A. L.	Mo.,	Typhoid Fever.
Robinson, Francis	Annapolis, Nova Scotia,	Scrofula.
Rochester, Thomas F.	Rochester, N. Y.,	Sulphuric Ether in Obstetric Practice.
Roscoe, John T.	Bertie, N. C.,	Hepatitis.
Rose, John	Philadelphia, Pa.,	Constitutional Peculiarities.
Rutherford, Levi	Dauphin, Pa.,	Inguinal Hernia.
Saunders, William H.	Washington, D. C.,	Pneumonia.
Scollay, Charles L.	Jefferson, Va.,	Inhalation of Sulphuric Ether.
Seip, Amos	Northampton, Pa.,	Peculiar form of Fever as it prevailed at the Glendon Iron Works, Northampton county.
Seymour, William P.	Troy, N. Y.,	Scarlatina.
Shannon, David P.	Franklin, Pa.,	Phthisis Pulmonalis.
Shelton, John B.	Clarksville, Va.,	Displacement of the Uterus.
Shippen, Edward	Burlington, N. J.,	Angina Pectoris.
Sill, Edward Jr.	Richland, S. C.,	Scarlatina.
Smith, Booker F.	Campbell, Va.,	Pneumonia.
Smith, George Hand	Rochester, N. Y.,	Poisonous species of Rhus, inhabiting New York.
Smith, John A. P.	Northampton, N. C.,	Febris Intermittens.
Smith, Milo	Hamilton, Tenn.,	Marsh Miasma.
Sorrel, Francis Jr.	Chatham, Ga.,	Tetanus.
Stevenson, Charles T.	Bridgetown, Barbadoes,	Typhus Fever.
Stewart, James L.	Pittsburg, Pa.,	Labour Præmaturans Artificialis.
Stout, Samuel H.	Davidson, Tenn.,	Medical Topography of Tenn.
Stovall, S. B.	Lincoln, Ga.,	Wounds of the Chest.
Taylor, J. Marcellus	Nash, N. C.,	Cornus Florida.
Taylor, William T.	Philadelphia, Pa.,	Food.
Taylor, William V.	Holly Springs, Miss.,	Dysentery.
Thomas, William P.	Columbia, Mo.,	Progress of Medicine.
Thomson, Charles R.	Orangeburgh, S. C.,	Marsh Miasma.
Towler, Joseph M.	Columbia, Tenn.,	Theory and Practice of Medicine.
Train, Arthur,	Kenawha, Va.,	Acute Hepatitis.
Trueheart, Fayette D.	Henrico, Va.,	Intermittent Fever.
Trugien, John W. H.	Norfolk, Va.,	Human Eye.
Vasser, George W.	Monroe, Miss.,	Hepatitis.
Wagner, Charles K.	Easton, Pa.,	Cancer of the Stomach.
Walke, J. Wistar	Chesterfield, Va.,	Enteric, or Typhoid Fever.
Ward, John	Fauquier, Va.,	Physiology of Circulation.
Webb, James	Greene, Ala.,	Menstruation.
Wellford, Armistead N.	Spottsylvania, Va.,	Application of Ether to Surgery.
Wingfield, Charles L.	Albemarle, Va.,	Irritable Uterus.
Wingfield, Thurmur H.	Norfolk, Va.,	Acute Pleuritis.
Withers, Edward D.	Campbell, Va.,	Morbus Brightii.
Wright, W. Roderick	Philadelphia, Pa.,	Puerperal Fever.
Workman, Edward E.	Kershaw, S. C.,	Inflammation.

The Degree of Doctor of Medicine was also conferred upon

- Dr. David Caldwell, Greensborough, North Carolina,
 " Alfred Wotkins, Troy, New York, and
 " John W. Gloninger, Lebanon, Pennsylvania.

At a Public Commencement held in July, 1847, the following gentlemen received the Degree of Doctor of Medicine.

NAME.	STATE.	SUBJECT OF ESSAY.
Brunson, Thaddeus W.	Macon, Ala.,	Colica Pictonum.
Craig, James R.	Dinwiddie, Va.,	Inflammation.
Davis, Ira S.	Greene, N. C.,	Tertian Intermittent.
Dunn, Samuel W.	Pennington, N. J.,	Asphyxia.
Jacoby, Leonard	Bristol, Pa.,	Epilepsy.
Miller, Nathaniel	Providence, R. I.,	Diabetes Mellitus.

TOTAL, 174.

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FOR OCTOBER, 1848.

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TO READERS AND CORRESPONDENTS.

OUR Montreal correspondent is informed that the publishers cannot furnish the first thirteen volumes of this Journal.

The initials W. P. should have been appended to the able review of Dr. STILLE's Elements of General Pathology, p. 377.

Credit should have been given to Dr. HUGHES, and not to Dr. EASLEMAN, for the statistical researches on chorea at page 454 of this No.

The following works have been received :—

Boa Vista Fever. Return to an Address of the Honourable the House of Commons, dated 4th February, 1848, for a copy of Dr. KING's Report on the Fever of Boa Vista. London, 1848. (From Dr. McWilliam.)

Dr. McWILLIAM's Remarks on Dr. KING's "Report on the Fever at Boa Vista," ordered, by the House of Commons, to be printed, 10th March, 1848. (From the Author.)

Principles of Medicine : comprising General Pathology and Therapeutics, and a brief general view of Etiology, Semeiology, Diagnosis, Prognosis, and Hygienics. By CHARLES J. B. WILLIAMS, M. D., F. R. S., &c. &c. &c. Edited, with additions, by MEREDITH CLYMER, M. D., Fellow of Philad. Coll. Phys., &c. &c. &c. Third American, from the second and enlarged London edition. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

A Dispensatory, or Commentary on the Pharmacopœias of Great Britain (and the United States) : comprising the Natural History, Description, Chemistry, Pharmacy, Actions, Uses, and Doses of the Articles of the Materia Medica. By ROBERT CHRISTISON, M. D., V. P. R. S. E., &c. &c. &c. Second edition, revised and improved, with a Supplement, containing the most important New Remedies. With copious additions, and 213 illustrations, by R. EGLESFELD GRIFFITH, M. D., &c. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

Medical Chemistry for the Use of Students and the Profession : being a Manual of the Science, with its Applications to Toxicology, Physiology, Therapeutics, Hygiene, &c. By D. P. GARDNER, M. D., formerly Prof. Chem. in Philad. Coll., &c. &c. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

A System of Human Anatomy, General and Special. By ERASMUS WILSON, M. D., Lecturer on Anatomy, London. Fourth American from the last London edition. Edited by PAUL B. GODDARD, A. M., M. D., Prof. Anat. and Hist. in Franklin Med. Coll. With 251 illustrations by GILBERT. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

An Analytical Compendium of Various Branches of Medical Science, for the Use and Examination of Students. By JOHN NEILL, M. D., Demonstrator of Anat. in Univ. of Penna., &c., and FRANCIS GURNEY SMITH, M. D., Lecturer on Phys. in Philad. Ass., &c. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

Medical Lexicon. A Dictionary of Medical Science, containing a concise Explanation of the various Subjects and Terms, with the French and other Synonyms, notices of Climate and of celebrated Mineral Waters, Formulæ for various official and empirical preparations, etc. By ROBLEY DUNGLISON, M. D., Professor of the Institutes of Medicine, etc., in Jefferson Medical College, Philadelphia. Seventh edition, carefully revised and greatly enlarged. Philadelphia: 1848. Lea & Blanchard. (From the Publishers.)

Researches on the Chemistry of Food, and the Motion of the Juices in the Animal Body. By JUSTUS LIEBIG, M. D., Prof. of Chem. in the Univ. of Giessen. Edited from the MS. of the author, by WM. GREGORY, M. D., Prof. of Chem. in the Univ. of Ed. Edited from the English edition by EBEN N. HORSFORD, A. M., Rumford Prof. in the Univ. of Cambridge. Lowell: Daniel Bixby & Co., 1848. (From the Publishers.)

A Practical Treatise on the Diseases of Children. By J. FORSYTH MEIGS, M. D., Lecturer on the Diseases of Children in the Philad. Med. Association. Philadelphia, Lindsay & Blakiston, 1848. (From the Publishers.)

The Trial of William Freeman for the Murder of John G. Van Nest, including the Evidence and the Arguments of Counsel, with the Decision of the Supreme Court granting a New Trial, and an Account of the Death of the Prisoner, and of the Post-mortem Examination, &c. Reported by BENJ. F. HALL, Counsellor at Law. Auburn: Derby, Miller & Co., 1848. (From the Publishers.)

Lead Diseases. A Treatise from the French of L. TANQUEREL DES PLANCHES. With notes and additions on the Use of Lead Pipe and its Substitutes. By SAMUEL L. DANA, M. D., L. L. D., &c. &c. &c. Lowell: Daniel Bixby & Co., 1848.

A Practical Treatise on Poisons: their Symptoms, Antidotes, and Mode of Treatment. By O. H. COSTILL, M. D. Philadelphia, Grigg, Elliot & Co., 1848. (From the Author.)

The Principles and Practice of Medicine, in a Series of Essays. By JOHN W. HOOD, M. D. Philadelphia, Thomas, Cowperthwait & Co., 1848. (From the Author.)

Illustrations of Medical Botany: consisting of Coloured Figures of the Plants affording the important articles of the Materia Medica, and Descriptive Letterpress. By JOSEPH CARSON, M. D., Prof. Mat. Med. in Philad. Coll. of Pharm., &c. &c. No. 5. Philadelphia, R. P. Smith, 1848.

A System of Clinical Medicine. By ROBERT JAMES GRAVES, M. D., M. R. I. A., &c. &c. &c. With Notes and a series of Lectures, by W. W. GERHARD, M. D., Lecturer on Clinical Medicine in Univ. of Penna. Third American edition. Philadelphia, Ed. Barrington & Geo. D. Haswell, 1848. (From the Publishers.)

An Account of some of the Most Important Diseases incident to Women. By ROBERT GOOCH, M. D. With illustrations. Second edition. Philadelphia, Ed. Barrington & Geo. D. Haswell, 1848. (From the Publishers.)

Die Krankheiten der Milz Eine Pathologisch-Therapeutische Abhandlung. Von Dr. C. B. HEINRICH. Leipzig, 1847. (From Dr. Oppenheim.)

The Nature and Treatment of Deafness and Diseases of the Ear; and the Treatment of the Deaf and Dumb. By WILLIAM DUFTON, M. R. C. S. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

Valedictory Address to the Medical Class and Graduates of the Indiana Medical College at the Public Commencement, Feb. 19th, 1848. By A. B. SHEPMAN, M. D., Prof. of Surgery. Syracuse, 1848. (From the Author.)

Annual Report of the Regents of the University of the State of New York. Albany, 1848. (From Dr. T. R. Beck.)

A Complete Practical Work on the Nature and Treatment of Venereal Diseases and other Affections of the Genito-Urinary Organs of the Male and Female. Illustrated by a great number of beautifully Coloured Plates, and many finely executed delineations on Wood. By HOMER BOSTWICK, M. D. New York, Burgess, Stringer & Co., 1848. (From the Author.)

A Treatise on the Nature and Treatment of Seminal Diseases, Impotency, and other kindred affections, with Practical Directions for the Management and Removal of the Causes producing them, together with Hints to Young Men. By HOMER BOSTWICK, Surgeon. Second edition. New York, Burgess, Stringer & Co., 1848. (From the Author.)

Annual Report to the Managers of the Royal Edinburgh Asylum, for the year 1847. By DAVID SKAE, M. D., Physician to the Asylum. (From the Author.)

Analysis of Bladin Springs. By R. T. BRUMLEY, Prof. of Chem., &c., Univ. of Alabama. Tuscaloosa, 1848. (From Dr. A. B. C. Dossey.)

An Address delivered before the Class of the Castleton Medical College, on the History of the Original Application of Anæsthetic Agents, May 17th, 1848. By E. R. SMILE, M. D. Boston, 1848. (From the Author.)

Report of the Medical Department of the University of Pennsylvania, for the year 1848; to the Alumni of the School. By the Medical Faculty. Philadelphia, 1848.

Catalogue of the Trustees, Officers, and Students of the Indiana Medical College, La Porte, Ia. Session, 1847-48.

Catalogue of the Second Session of the Memphis Medical College. Session 1847-48. Memphis, 1848.

Annual Announcement of the Medical Department of the St. Louis University. Session 1848-49. St. Louis, 1848.

Ninth Annual Announcement of the Baltimore College of Dental Surgery. Baltimore, 1848.

Annual Circular and Catalogue of the Medical Department of the University of Buffalo. Buffalo, 1848.

Annual Announcement of Cleveland Medical College. Session 1848-49. Cleveland, O., 1848.

College of Physicians and Surgeons in the City of New York. University of the State of New York. Catalogue of the Officers and Students of the College, and Annual Announcement of Lectures. 42d Session, 1848-49. New York, 1848.

Report of the Medical Missionary Society of China; the Fourth Report of the Ophthalmic Hospital, Canton, embracing the period from July 1, 1845, to Dec. 31, 1847. By Rev. F. PARKER, M. D., &c. &c. Canton, 1848. (From Mr. R. P. Desilver.)

Report of the Secretary of State [New York] of the number of Births, Marriages, and Deaths, for the year 1847. (From Dr. T. R. Beck.)

The British American Journal of Medical and Physical Science. Edited by ARCHIBALD HALL, M. D., &c. &c. July, August, Sept., 1848.

Summary of the Transactions of the College of Physicians of Philadelphia. April to August, 1848, inclusive.

Revue Médicale Française et Etrangère. Par J. B. CAYOL, Ancien Professeur, &c. &c. Nov., Dec., 1847-Jan., Feb., 1848.

Gazette Médicale de Paris. Dec., 1847-Jan., Feb., March, April, May, 1848.

Annales de Thérapeutique Médicale et Chirurgicale et de Toxicologie. Publiées par M. le Docteur ROGNETTA, Mem. de l'Acad. des Sc. de Naples, &c. &c. Dec., 1847-Jan., Feb., March, April, 1848.

Journal de Médecine et de Chirurgie Pratiques à l'Usage des Médecins Praticiens. Par LUCAS CHAMPIONNIÈRE, D. M. P. Dec., 1847-Jan., Feb., March, April, May, 1848.

Journal des Connaissances Médico-Chirurgicales. Publié par le Dr. A. MARTIN LAUZER. Dec., 1847-Jan., Feb., March, April, May, 1848.

Journal des Connaissances Médicales Pratiques et de Pharmacologie. Dec., 1847-Jan., Feb., March, April, 1848.

Journal de Pharmacie et de Chimie par MM. Boullay, J. P. Boudet, Bussy, Soubeiran, Henry F. Boudet, Cap, Boutron-Charlard, Fremy et Guibourt, suivi d'un Compte Rendu des Travaux de Chimie. Par M. CHARLES GERHARDT. Dec., 1847-Jan., Feb., March, April, 1848.

Annales Médico-Psychologiques. Journal de l'Anatomie, de la Physiologie, et de Pathologie du Système Nerveux. Par MM. BAILLARGER, CERISE et LONGET. Jan., March, 1848.

Revue Médico-Chirurgicale de Paris. Sous la Direction de M. MALGAIGNE, Chirurgien de l'Hôpital St. Louis, &c. May, June, July, 1848.

Zeitschrift für die Gesamnte Medicin. Herausgegeben von F. W. OPPENHEIM. Dec., 1847-Jan., Feb., March, April, May, June, July, 1848.

Adolph Henke's Zeitschrift für die Staatsarzneikunde, fortgesetzt von Dr. A. SIEBERT, o-o., Prof. der Medicin in Jena. 37 Erg. Bd. 55, heft. 2.

Archief voor Geneeskunde. Ditegegeven Door Dr. J. P. HEIJE, Vijfde Deel. Amsterdam, 1846.

The Dublin Quarterly Journal of Medical Science. May, August, 1848.

The British and Foreign Medico-Chirurgical Review. July, 1848.

The Edinburgh Medical and Surgical Journal. July, 1848.

Monthly Journal and Retrospect of the Medical Sciences. June, July, Aug., Sept., 1848.

The London Medical Gazette. June, July, Aug., 1848.

The Half-Yearly Abstract of the Medical Sciences. Edited by W. H. RANKING, M. D., Cantab. Jan., June, 1848.

The Retrospect of Medicine, being a Half-Yearly Journal. By W. BRAITHWAITE, Lecturer on Obstetric Medicine, &c. Jan., June, 1848.

Buffalo Medical Journal. Edited by AUSTIN FLINT, M. D., &c. June, July, August, 1848.

The Medical Examiner and Record of Medical Science. Edited by R. M. HUSTON, M. D., &c. July, Aug., Sept., 1848.

Southern Medical and Surgical Journal. Edited by Paul F. EVE, M. D. July, Aug., Sept., 1848.

The North-Western Medical and Surgical Journal. Edited by Drs. HERRICK and EVANS, Profs. in Rush Med. Coll. June and July, 1848.

The American Journal of Insanity. Edited by the Officers of the New York State Lunatic Asylum, Utica. July, 1848.

The New Jersey Medical and Surgical Reporter and Transactions of the New Jersey Medical Society. Edited by JOSEPH PARRISH. July, 1848.

The Charleston Medical Journal and Review. Edited by Drs. P. C. GAILLARD and H. W. DE SAUSSURE. July, Sept., 1848.

The Western Lancet and Hospital Reporter. Edited by L. M. LAWSON, M. D., and J. P. HARRISON, M. D. July, Sept., 1848.

The New Orleans Medical and Surgical Journal. Edited by J. HARRISON, M. D., and A. HESTER, M. D. July, Sept., 1848.

The Western Journal of Medicine and Surgery. Edited by Drs. D. DRAKE, L. P. YANDELL, M. D., and T. W. COLESCOTT, M. D. July, Aug., Sept., 1848.

The Annalist, a Record of Practical Medicine in the City of New York. Edited by WM. C. ROBERTS, M. D. July, Aug., Sept., 1848.

The American Journal of Science and Arts. Conducted by Profs. B. SILLIMAN, and B. SILLIMAN, jr., and J. D. DANA. July, Sept., 1848.

The Literary World. A Journal of American and Foreign Literature, Science, and Art. July, Aug., Sept., 1848.

The American Journal of Pharmacy. Published by authority of the Philadelphia College of Pharmacy. Edited by J. CARSON, M. D., and WM. PROCTOR, jr., Profs. in the College. Assisted by a Publishing Committee. July, 1848.

The Missouri Medical and Surgical Journal. Edited by Drs. T. BARBOUR and A. J. COONS. July, 1848.

The American Journal and Library of Dental Science. Edited by Drs. HARRIS and WESTCOTT, and Mr. DEVENELLE. July, 1848.

The Ohio Medical and Surgical Journal. Edited by JOHN BUTTERFIELD, M. D., Prof. of the Pract. of Med. in Starling Med. Coll. No. 1. Sept., 1848.

The New York Journal of Medicine and the Collateral Sciences. July, 1848.

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All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Lea & Blanchard.

☞ The advertisement-sheet belongs to the business department of the Journal, and all communications for it should be made to the publishers.

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THE
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ART. I.—*Remarks on the Oxalate of Lime Diathesis, with Cases illustrative of the Disease.* By CHARLES FRICK, M. D., of Baltimore.

DURING the past year, we have devoted a considerable portion of our time to an examination of the urinary secretion, and have been enabled by its assistance in a good many instances to make out a diagnosis when all other means failed. Some nine or ten of these were characterized by the presence of oxalate of lime, and from them we have selected the following cases. They are reported, in addition to what has been already written, for the purpose of showing the important aid that an examination of the urine often lends to diagnosis.

The frequent occurrence of this salt in the urinary secretion, in a comparatively limited number of observations, has led us to the conclusion that it is by far the most common abnormal deposit that is met with requiring a decided treatment, and at the same time that it is one of the most important of all the urinary diseases. It is important in the first place, from the obscurity of its diagnosis, so far as relates to general symptoms; for in all the cases that we have seen, the patients have either been treated previously for some other disease, or a microscopic examination of the urine has only been resorted to, because the ordinary means of diagnosis failed to account satisfactorily for the origin of the symptoms. It is important in the second place because it yields readily to treatment; all the cases we have seen having been either cured or much relieved when proper remedies were used. We are glad that we are able to add the testimony of these few cases in support of the large number collected by Dr. Golding Bird, proving the great frequency of this disease, and its comparative curability. Its prominent symptoms are all characterized by great nervous

depression, and in every instance the patient's expression and appearance led to the suspicion, at the first interview, that he was suffering from seminal emissions.

Characters of the Urine.—In no case were we able to distinguish the oxalate by the naked eye, and have generally found it equally disseminated throughout the vessel, never subsiding so as to form a deposit. In all but one instance there was a sediment at the bottom of the glass, consisting either of epithelium scales, or urate of ammonia; and we were led in one case to suspect the presence of the oxalate, from the unusual quantity of epithelium scales. The specific gravity was about the same average as that of healthy urine, and the reaction always acid with one exception, in which case it was neutral. The urea and phosphates were almost invariably in excess, while the uric acid was deficient, and towards the termination of the case as the oxalate disappeared, in two instances we remarked the presence of a few crystals of the triple phosphate, and in three, the appearance of lithic acid in the form of rectangles; in one case, this latter was in considerable abundance. Specimens of urine voided at different periods of the day contained the oxalate in variable proportions, being sometimes entirely wanting, while the largest quantity was generally found in that passed just before going to bed. The crystals, as observed under a microscope, magnifying about 250 diameters, differed not only in size but also in shape. The most common variety were double pyramids, joined together at their bases, each base being a square with the sides equal to the height of the pyramid; these sides varied in length, from one-third of a line to three lines. The crystals were usually of one uniform size in the same specimen, but often differed from day to day in the same individual. The variety that occurred most frequently next in order was the dumb bell, in length from two to four lines, the sides being much less concave than those figured by Golding Bird; occasionally, as a modification of this form, the dumb bell would be surrounded by an oval, the interval between the oval and the dumb bell being of a black colour. The next was a dark oval of the same size as the preceding, with a transparent square occupying half its surface set in the middle. We have also observed others occasionally, which would be difficult to describe without plates, but which were all modifications more or less of the last two varieties.

In all the cases, the patients either were at the time, or had been previously suffering from some form of dyspepsia, to which the formation of the oxalate seemed to be a consequence; and in fact, oxaluria should rather be considered as a symptom of one form of dyspepsia, than as a separate disease. Dr. Bird has, however, so well explained the probable origin and formation of this salt, that it would be out of place to enter into any additional explanation here. We would remark, however, that two of these patients (we regret that the inquiry was not made of all), complained that they had never been able to eat tomatoes without suffering an aggravation

of all their symptoms. This, as is well known, is one of the most digestible articles of food that we possess, but yet contains a large amount of oxalic acid, which, although readily eliminated by individuals in good health, we can easily imagine might not be so readily appropriated where the system was already fully charged with it.

The symptoms that the presence of this salt produced, are almost innumerable. We have seen, in one instance, in a patient of Dr. T. Buckler's, an August cold as it is termed, which had appeared almost on the same day for years in succession, be coincident with large quantities of oxalate of lime in the urine, and be promptly relieved by appropriate treatment. May it not be that many of these colds owe their origin to this cause, and are periodical in their appearance in consequence of the ingestion of oxalic acid, which is taken in the articles of food which are in season only at this period of the year, particularly tomatoes? We have also known oxalate of lime to be associated with facial neuralgia, which promptly disappeared under the use of nitro-muriatic acid; indeed, in two of the following cases, one of the most prominent symptoms was neuralgia of the fifth pair of nerves. It will also be seen in case No. IV., that the presence of this salt was coincident with amaurosis, which improved in proportion to the diminution of the oxalate from the urine. The most striking symptoms, however, of this diathesis, are found in derangements of the nervous system. The patients all complained of unusual depression of spirits, distaste for society, and inability for physical or mental exertion; oftentimes these symptoms would be attended with a feeling of general malaise, without any decided localized uneasiness. In most instances there were some evidences of gastric derangement, such as a sense of oppression after eating, constipation, furred tongue, and enlargement of the papillæ; but these symptoms were not constant. As a general rule, there was no particular disturbance about the urinary organs, occasionally pain in the loins, irritability of the bladder, and pain in micturition; but with one exception these were not prominent symptoms. Emaciation was by no means constant, nor did we observe, in any instance, the peculiar greenish tinge of the complexion, spoken of by Dr. Prout. It is needless for us to go into any further detail in regard to the symptoms of this disease. They have been so fully and ably discussed by Dr. Bird, that it would be out of place for us, from our small experience, to add anything beyond a simple detail of facts, to what he has already written.

I should add that but a small number of the cases alluded to here, have occurred in my own practice, the rest I have had access to through the kindness of my friends. The cases numbered two and three occurred in the practice of Dr. Power.

CASE I.—*Follicular Gastritis coincident with the presence of Oxalate of Lime in the Urine.*

January 27th, 1848.—Ashby Carter, a mulatto, æt. 42, a barber by trade, is married and has a family. He is very tall and a good deal emaciated, and says that he has not been well for eight or ten years, suffering principally from muscular debility. During this time he has had occasional attacks of what he calls dyspepsia, which obliged him to discontinue work from periods of one to three weeks. He says that he never noticed any peculiarity about his urine, nor has he had any pain over the loins. Since last November he has been getting worse by degrees, and has now been confined to his room for two weeks. His countenance is sunken, and expression of face anxious. Has considerable cough and pain in different regions of his chest, but no physical signs indicative of disease. He suffers greatly from neuralgia of the superior branch of the fifth pair of nerves, which has latterly been almost constantly present. Great muscular debility, restlessness, and incapacity for any mental exertion. Tongue moist and natural, but the papillæ are much enlarged and reddened; at the root of this organ some of them are as large as duck shot. Appetite good, but most articles of food produce uneasiness after eating; bowels usually tympanitic, and habitually constipated. There is slight pain over the loins, and almost constant irritability of the bladder, obliging him to rise three or four times during the night. A specimen of his urine was as follows: appearance natural, specific gravity 1.031; on holding it to the light a slight cloud is perceptible; urea and phosphates normal, uric acid deficient; a drop placed under the microscope reveals an unusual quantity of epithelium scales, and a few crystals of uric acid. Supposing, from the large quantity of epithelium scales present, that oxalate of lime might exist, it was examined attentively, but no crystals could be discovered. The patient was then directed to collect all that was passed during the subsequent twenty-four hours, and on examining a drop of this, large quantities of the oxalate were found. The shape of these were double pyramids of different sizes, the bases varying in appearance from one-eighth of a line to three lines in length. Ordered counter-irritation to the stomach, with a farinaceous diet, and ox. argenti half grain, with fel. bovis gr. iij three times daily.

Feb. 2d.—Patient's condition somewhat improved; his food agrees better with him, and his bowels are regular. Urine remains the same. Ordered to take in addition nitro-muriatic acid in infusion of gentian.

10th.—The acid disagreed so much that he was obliged to discontinue its use after a few doses. His tongue now looks better, but he says he still feels very weak. Ordered some animal food, and renewed the acid, substituting an infusion of hops for the gentian. Urine still contains the same amount of oxalate of lime.

March 2d.—Patient expresses himself as greatly better. Has been out

of doors for the last week. Bowels regular; appetite good, and no sense of uneasiness after eating. The neuralgic pains have much improved, and also the irritability of the bladder. Papillæ on the tongue still much enlarged. Ordered to stop the ox. argenti and fel. bovis, and go on with the acid twice daily.

April 4th.—Patient has been improving fast since the last note. He has gained flesh; has gone about his usual occupation, and suffers no longer from neuralgia. His urine is as follows: urea and uric acid slightly in excess. Phosphates deficient. A few isolated crystals of oxalate of lime with an occasional one of the triple phosphate are perceptible under the field of the microscope.

CASE II.—*Feb. 22d, 1848* ————, æt. 36, and a lawyer by profession. His attack commenced about four months since, and he has been gradually getting worse. After being subjected for some time to the influence of moral causes, which tended to depress his nervous system, he found that his digestion had become impaired, that he had acquired a distaste for society, and was incapable of either mental or physical exertion. About two weeks since, in addition to these symptoms, he found himself seized with attacks of vertigo, and great muscular debility, so violent at times that he would fall down suddenly, and require assistance to reach his home. This last symptom has increased so much within a few days past, that he is now unable to leave the house. At present his condition is as follows. Muscular development moderate, but no emaciation; countenance pale and sallow; skin moist, cold and clammy; tongue slightly furred, complete anorexia, and constipation; vertigo on the slightest exertion; pulse weak, otherwise natural, pain over the loins and along the course of the urethra, particularly in urinating; great confusion of thoughts and depression of spirits, perfect inability to apply his mind to even the ordinary affairs of every day life, and extreme despondency. An examination of a specimen of his urine gave the following result. Colour deep red, specific gravity not ascertained. Large and copious yellowish-white deposit at the bottom of the glass, which clears up on heating it, and consists of urate of ammonia. On examining a drop of the lowest strata under the microscope, numerous crystals of oxalate of lime are perceptible of different shapes. The most abundant are of two different kinds, the one being very small double pyramids with square bases; and the other flat ovals from two to three lines in length of a black colour, with the exception of a small transparent square in the middle. There are also some double pyramids of a larger size, and a few dumb bells, the latter being less concave at the sides than those figured by Golding Bird in his work on Urinary Diseases. In addition to the oxalate, there are observable large quantities of epithelium scales, and a few grains of lithic acid. The phosphates are deposited in the usual quantity on the addition of ammonia,

and the urea is much increased while the uric acid is nearly wanting. Ordered a few doses of mass. hydrarg. with iron and quinine.

Feb. 25th.—Symptoms nearly the same; ordered nitro-muriatic acid with chamomile tea three times daily.

March 13th.—Has been improving steadily since he commenced using the acid. Is walking about, and says he thinks he will now get well. A specimen of his urine was as follows: urea and uric acid nearly normal. Some very minute crystals in the form of pyramids and a few dumb bells, such as have been previously described, were observable, the whole quantity being very much less than in the specimen first examined.

21st.—Says he is perfectly well; skin and colour natural; no oxalate in the urine; but a few crystals of the triple phosphate are to be seen.

CASE III.—*May 2d, 1848* ——— ———, æt. 24, a lawyer by profession, has always led a sedentary life, and been of studious habits. He has been unwell for the last three months, and suspects himself to have phthisis, to which he has a hereditary predisposition. He is slightly made, a good deal emaciated, and pale and sickly in appearance. He complains principally of great depression of spirits, and inability to mental or physical exertion. Appetite good, digestion performed without any sense of uneasiness; bowels regular, and no local symptom which would lead us to suspect urinary disease. Tongue enlarged and covered with a white fur, cracked in the centre, and the papillæ much reddened and elevated. The same condition of papillæ is observed in the back fauces and around the uvula. He has cough occasionally, and neuralgic pains in different parts of his chest. Slight pain after exertion in the loins; pulse 96 and feeble. There are no physical signs about his chest indicative of disease, and his whole appearance would rather lead to the suspicion of his suffering from seminal emissions, which, however, is not the case. A specimen of his urine passed in the morning is as follows: colour natural; specific gravity 1.028, acid reaction and slight flocculent deposit. Urea and phosphates considerably in excess. Uric acid deficient. The deposit is found to consist principally of epithelium scales, and large quantities of oxalate of lime in the form of double pyramids with a square base, the sides being about one line in length apparently. Ordered nitro-muriatic acid, with an infusion of chamomile three times daily.

May 25th.—Is much improved within the last week. His apprehensions of phthisis have been removed; but he still feels incapable of exertion. Ordered to go on with same treatment. Urine as follows: colour natural; flocculent deposit at bottom of vessel; specific gravity 1.025. Urea and uric acid nearly normal. Ammonia throws down an excess of phosphates, and there seems to be a trace of sugar, but this is doubtful. The microscope shows the quantity of the oxalate to be much diminished, a few crystals only being perceptible, and there are also fewer epithelium

scales. Lithic acid, however, is present in considerable quantity in the form of long slender rectangles which cross each other in the centre forming stars. Ordered to stop the acid, and take phosphate of ammonia.

June 10th.—Is nearly well; looks much better; has lost his disinclination for society. The urine contains only a few epithelium scales as a deposit.

CASE IV.—*Feb. 5th, 1848.* ——— æt. 25, a lawyer by profession, large and fleshy, but with a pale and clammy looking skin, and sedentary habits, presented himself with the following symptoms. He has been unwell for the last four years, suffering with obscure symptoms of disease, which by his friends have been thought to be imaginary in a great measure, and though not sufficient to confine him to the house, have rendered him incapable of attending properly to his profession. He has had at various times within this period, neuralgia about the face occurring principally in the fifth pair of nerves, pain in the loins, indistinctness of vision, great depression of spirits, and disinclination for society. He has also noticed that his urine abounded in a reddish-white deposit at times, coincident with the aggravation of his other symptoms. His father, for a long period of his life, was troubled with some urinary disorder, the exact nature of which is not known. At present he suffers from constipation and anorexia; coldness and moisture about his hands; occasional neuralgia and sense of weakness over the loins; great depression of spirits and disinclination for society; pain along the urethra in making water, and some irritability of the bladder. His pulse and tongue are natural, the first rather small. The prominent symptom, however, with him is inability to use his eyes for more than a very short period at a time; vision becoming indistinct, and *muscæ volitantes* making their appearance. This disturbance of vision has induced him to consult several eminent oculists, who regarded it as a local affair, and treated him without benefit. A specimen of his urine passed this morning was as follows: colour natural; slight filmy deposit on standing some time, reaction faintly acid, and specific gravity 1.036; the quantity of uric acid is less than normal, while urea and the phosphates are in excess. Nitric acid produces a brown opaque cloud throughout, which clears up on heating it, and is probably mucus. The deposit at the bottom of the glass, examined through a microscope, consists of minute crystals of oxalate of lime in the form of double pyramids in great abundance, and large quantities of epithelium scales.

March 7th.—The patient has been out of town since the last date, and has been subjected to no treatment. The symptoms remain nearly the same; the pain along the urethra is worse at times, and is coincident with increased disturbance of vision. He describes the pain as smarting and burning, and worse during the act of micturition. A specimen of urine voided at night is as follows: urea in excess; decidedly acid reaction,

specific gravity not ascertained. A thick layer of urate of ammonia of a cream colour is deposited at the bottom of the glass. On heating this, and submitting a drop of it to the microscope, great quantities of oxalate of lime are discoverable at first glance, looking like squares with bases of a half to one line, but a little attention soon shows them to be double pyramids, joined together at their bases. The following treatment was ordered. Diet to consist of an equal mixture of animal and vegetable food simply dressed, abstinence from stimulating drinks, and R.—*Fel. bovis* ℥ij; *ox. argenti* ℥ss. *Ft. pill.* xxx. One twice daily. Also R.—*Nitro-muriatic acid* ℥ij; *comp. infus. gentianæ* ℥vj. Teaspoonful gradually increased to a tablespoonful after each meal.

13th.—The pills purge, and the acid disagrees. Advised to discontinue the first except when necessary, and to omit the acid for a few days. Symptoms the same. Urine contains, in addition to the oxalate, some crystals of lithic acid deposited spontaneously.

30th.—The acid made in the usual proportions produced so much disturbance of stomach, that the nitric and muriatic acids were combined in equal proportions, and an infusion of hops substituted for the gentian. This he has been taking for ten days, and his symptoms are much ameliorated. His spirits are more cheerful; the pain along the urethra has disappeared, and vision is much improved. Two specimens of urine were brought for examination, differing widely in composition. The average specific gravity of the two was 1.027. The oxalate was entirely wanting in the morning specimen, and in but small quantity in that passed at night. In other respects it was similar to that examined previously with the exception of an absence of epithelium scales. Ordered to continue the same treatment.

April 18th.—Patient's complexion is more natural, and he describes himself as being in better health than he has been for two years. His vision is so much improved that he now experiences very little inconvenience from it. He admits to have been guilty during the last few weeks of occasional indiscretions of diet, which have retarded his improvement. His urine was not examined. Ordered to proceed.

Since the last date the patient has not returned, and we conclude that he is either well or greatly improved. This case is in some respects an obscure one, but we suppose the prominent symptoms to have been dependent on the presence of the oxalate, from the fact of their amelioration being coincident with the disappearance of the salt from the urine.

A majority of the cases, from which the previous observations have been made, were comparatively mild, and in all the treatment was eminently successful. Evidences of gastric derangement being nearly always present, it was generally found necessary when the patient was first subjected to treatment to use appropriate means for its subdual. These were sometimes sedatives, sometimes *massa hydrarg.*, and in two or three instances

fel. bovis with ox. argent.; but in no case was it found that the oxalate disappeared from the urine under their administration. Nitro-muriatic acid in doses of from four to ten drops three times daily, combined with some tonic infusion, was used in all the cases. In but two instances did it disagree, and this was remedied by adding to it an infusion of hops. In addition to these means, the diet was carefully regulated, using an equal mixture of animal and vegetable food plainly dressed, and abstaining from stimulating drinks; at the same time exercise, bathing and the usual hygienic means were insisted on. We have heard two patients say that the acid acted upon them as an anodyne, that frequently when suffering from neuralgia and an undefined sense of uneasiness which prevented sleep, a single dose of the medicine would procure most decided relief for an interval of some hours. If this relief was not owing to the imagination, it could only have been produced by the action of the acid upon the oxalate of lime, which we think is not at all improbable.

BALTIMORE, June 24th, 1848.

ART. II.—*Surgical Cases reported to the Bureau of Medicine and Surgery.* By M. G. DELANEY, M.D., Surgeon U.S. Navy. (Communicated to this Journal by THOMAS HARRIS, M.D., Chief Bureau Med. and Surg.)

Amputation of the thigh by circular incision.—I wish to call the attention of the profession to the new mode of amputation at the lower third of the thigh, proposed and practiced, with success, by Professor Syme of Edinburgh. The superiority of the flap over the circular operation will admit of a doubt; and the facility of its performance, and nice mechanical adaptation of parts, will scarcely compensate for the not uncommon occurrence of a conical stump. In fact, many able surgeons who advocated the flap operation, and performed it in almost all cases, have now, to a certain extent, abandoned it.

The advantages claimed for it are quickness of performance, and a good muscular cushion for a stump: the first, where it occurs, is a matter of small moment; the latter, a circumstance not necessarily resulting.

Its disadvantages are known to be, increased pain from oblique incision of the nerves, increased hemorrhage from oblique incision of the arteries, the necessity of a greater number of ligatures than is ordinarily used in the circular operation, the greater probability of secondary hemorrhage, retraction of muscles, and finally, a conical stump. It is true that many of the best surgeons continue to practice the flap operation, who, if the results I have mentioned were of common occurrence, would have long

since abandoned it; but in the absence of comparison, it is natural to prefer that mode which is most familiar, and in which we can exhibit the greater dexterity. What I mean to imply simply, is this, that experience has proven the circular to be a safer operation than the flap, in all cases save at the upper third of the thigh; that there is less danger of secondary hemorrhage; that eventually, the flap operation, when successful, is reduced to the circular, inasmuch as little remains but an integumentary stump in both.

I have seen two flap amputations performed upon the same thigh, and by two clever surgeons; both terminated in a conical stump and proved unsuccessful. I cannot affirm that the circular operation in this case would have given a different result, but I have reason to think it would.

A sufficiency of skin, not of muscle, is the requisite for a good stump; and this does not always obtain after the retraction and suppuration of a large muscular flap. I have performed the integumentary or circular operation many times, upon all parts of the extremities except the upper third of the thigh, and lower third of the forearm, and, without a single exception, successfully.

The operation of Professor Syme, which I recommended, and which was practiced in the following case, he thus describes:—

“The compress of the tourniquet should be applied over the artery close to the groin. Instead of the old-fashioned concave edged, thick-backed amputating knife, a middle-sized one of the kind employed for the flap operation, will be found more convenient. The incision of the skin should be made as near the knee as possible, not in a circular direction, but so as to form two semi-lunar edges, which may meet together in a line from side to side, without projecting at the corners. The fascia should be divided along with the integuments, which are thus more easily retracted—not by dissecting and turning them back, but by steadily drawing them upwards, through means of the assistant's hands firmly clasping the limb. This should be done to the extent of at least two inches, or more, if the thigh is unusually thick. The muscles are then to be divided as high as they have been exposed, by a circular sweep of the knife, directly down to the bone, from which they must be separated and retracted with the utmost care. In ordinary circumstances, the retraction should not be less than two inches, and, before using the saw, the bone must be completely exposed by means of a cloth split up the middle, applied on each side of it, and forcibly held up.”

Case.—Mr. Wm. Hart, aged 48, Boatswain U.S. Navy, received a simple fracture of the right leg, in upper and lower thirds, some fifteen years ago. In attempting to rise from the deck he fell with much force upon the knee of the injured limb. Within the usual time, the patient being a healthy man, and free from all scrofulous disposition, the bones were reunited, and he was enabled to pursue his usual duty in the Charlestown Navy Yard. But in the course of a year, the knee upon which he fell began to be painful and swollen. All means were unavailingly employed to abate the pain; and bandages, splints, and rest, were equally useless in the endeavour to produce a cure; or cause ankylosis of the joint. Contraction of the tendons of the knee took place, and for the last five years the extremity

has been carried at an angle of 100° with the thigh. A consultation of surgeons having determined the necessity of amputation, I proceeded to the operation on the 27th of April last, in presence of, and assisted by, Drs. Cheeyer, Oliver, and Boardman of Portsmouth. The patient desired that chloroform should be administered, and it was accordingly inhaled through a sponge, under the direction of Mr. Preston.

I would here remark, that, expecting the speedy action of the chloroform, I had applied and tightened the tourniquet previous to the inhalation. I should not do so again. I would merely buckle the strap and not impede circulation till insensibility was produced. The first few inhalations caused spasms and convulsions, which, however, were easily commanded by the assistants—the patient not being otherwise secured—and it was full four minutes before that stertorous quietude was obtained sufficient to commence the operation. This length of time completely filled the veins of the extremity: and though the hemorrhage was not great, yet it was more than the reduced state of the patient rendered desirable, and double what it would have been had the tourniquet not been tightened till the moment of cutting. The unnecessary loss of blood is an object not to be lost sight of, especially in secondary amputation, where the system is generally very much reduced.

The thigh being very thick, retraction to the extent of three inches was made by dissection, the fascia being so bound down to the muscles by the action of years of bandaging, that it was impossible for the hands of the assistant to retract alone. The skin was not turned back.

Immediately after the first deep incision, the femoral artery was secured by a ligature, and then the muscles carefully separated from the bone to the height of two and one-half inches. The whole operation only occupied six minutes, which, as respects time, will compare favourably with most of the flap amputations. The amount of chloroform consumed was about three drachms, inhaled interruptedly, to prevent the possibility of asphyxia. Yet even with this caution (and the amount of chloroform used was indispensable to produce the desired effect, say two drachms actually inhaled), the patient became nearly pulseless. The stimulus of brandy, however, as soon as it could be swallowed, restored him to partial consciousness in a few minutes.

His perception of objects and hearing remained, to a certain extent, during the operation; but with a total insensibility to pain, and a complete ignorance, for twenty minutes after, that such operation had been performed. The divided arteries seemed little disposed to bleed; and I must here add my testimony to that of others, of the scarcely perceptible difference in colour between the arterial and venous blood. Only four ligatures were required. To secure adhesion by the first intention, I consider the removal of all coagula by a sponge wetted with *cold* water, the best means. A temporary constriction of the small vessels is thus produced till the parts are

coaptated—no space is then left for coagula, and, consequently, the chance of suppuration is much lessened. Adhesive straps only were applied to the stump, and the patient removed to bed.

Very slight vomiting took place in bed, once only, and for a few seconds—and then all the faculties were gradually restored, and a painless, quiet lassitude obtained. Dissection of the joint proved the necessity of its loss; the cartilage, and much of the cancellated structure of the external condyle having been absorbed. The night succeeding the operation had been the most painless one passed for years.

The straps were replaced on the eighth day; no bandage applied; ligatures all removed by the twenty-first day, and on the thirty-fifth day, the patient was walking about his house, with a stump completely healed, except at one small point in the centre.

Only for a day or two, and from irregularity of diet, did any topical application become necessary, and then an evaporating lotion of rum and water reduced the heat to the natural standard. From the seventh week of the operation, the patient has been daily walking the streets in the enjoyment of the most perfect health.

Remarks.—There are two things which I wish to impress by this case—1st, the superiority of Syme's method over every other in amputation of the lower third of the thigh, and the almost certainty, by this mode, of preventing that disgrace to surgery, a conical stump. 2d, the great caution necessary to be used in the administration of chloroform in a large quantity, so as to prevent asphyxia, and this is best avoided by inhaling it interruptedly, and always through a sponge, for the proper admixture of air.

Whilst on the subject of amputation, I may remark that, of late, I have had occasion to amputate many fingers and toes, and I find by experience that (particularly when the flap is made from the plantar or palmar face of the limb) the best mode of union is caused by the interrupted suture.—Three sutures for the great toe, and two for any of the others, will suffice. I leave them in for ten days or a fortnight; they rarely ulcerate through, on account of the thickness of the skin, and they produce an adaptation of parts seldom accomplished by the sticking-plaster and bandage alone.

Castration of enlarged and irritable testicle.—Captain Thomas T., aged 59, had undergone the palliative operation for hydrocele of the tunica vaginalis of the right side, some eighteen months ago. He had neglected to follow the advice of his careful surgeon, and take the necessary rest for a short time. In consequence of his imprudence, inflammation and pain quickly followed, the scrotum increased in size, became pyriform in shape, had constantly to be triced up in a handkerchief, and altogether, both at sea and on shore, as he expressed it, his life was perfectly miserable. I was called to see him on the 14th of May last, and requested to bring with me the necessary instruments for tapping the scrotum.

I found him in bed, where he had been for weeks, and with that peculiar countenance so expressive of great suffering. External applications, and opiates in large doses, had been used, without, in any material degree, abating the pain. Upon examination, I found the right side of the scrotum greatly distended, and, in addition, a large inguinal hernia of same side, for which he had never worn a truss. The intestine was easily returned without diminishing the size of the scrotum, and the spermatic cord, at the abdominal ring, was found to be of nearly the natural size and feeling.

The scrotum was very large—skin smoothly distended, apparently transparent in places, with a slight sense of fluctuation; but the outline of the testicle could not be easily traced. The whole tumour wanted the density and flatness of a diseased testicle. I was greatly embarrassed in my diagnosis. Judging *à priori*, the man had hydrocele; but taking into consideration the great pain and constitutional disturbance, there must be a diseased testis. I stated my doubts, and suggested the propriety of introducing a small exploring trocar. This was done, and not one drop of fluid escaped! Thus was the true state of affairs at once made known, and without causing any noticeable pain. Some there are who may blame my diagnostic discrimination in not arriving upon sight at a just conclusion.—To those I may remark that surgeons, like other men, differ in tact; and are not equally happy in the correctness of their deductions.

Sir Astley Cooper, when in Paris, had been requested by M. Roux to give his opinion, before the medical class, upon the case then on the operating table. It was one of enlarged scrotum. Sir Astley, after a careful examination, pronounced it scirrhus testicle, and declared the necessity of extirpation. Whereupon the wily Frenchman shoved a lancet into the bag, and the scirrhus testicle, to the amazement of Sir Astley, ran out in a limpid stream! In this instance we are bound to admire M. Roux's diagnosis, rather than his politeness. But the case exemplifies this, that a surgeon, however eminent, may sometimes be mistaken.

I advised the necessity of extirpating *this* testicle from the fact of its being so exceedingly painful—the cord being small, and free from knots, and the surface, to the touch, so smooth, and free from tuberculation. Accordingly, on the 16th of May, two days after the exploration, I proceeded to extirpate the testicle, assisted by Dr. Cheever, of Portsmouth.

The hair having been shaved off, an incision was made from the external abdominal ring, to the inferior part of the scrotum, in length seven inches. Careful dissection was here necessary, as the action of the abdominal muscles had forced the intestine into the opening. Instead of separating the blood-vessels from the vas deferens, and then tying them, it was found more convenient to cut half-way through the cord, secure the arteries, and then finish the incision. This proceeding is the quickest; and as no contraction can take place till the arteries are secured, and the cord severed, I consider it the best.

The testicle was then carefully dissected out from the scrotum, and the artery of the septum and a few other small ones secured. Not more than four ounces of blood were lost during the operation. Four sutures were passed through the lips of the wound, which was then lightly dressed with a pledget of lint. Not the slightest secondary hemorrhage occurred, and the only disagreeable symptom was retention of urine for thirty hours after the operation. I had not seen the patient in the mean time, but upon my arrival introduced the catheter, and drew off three pints of urine. From this time forward, not one bad symptom occurred. Adhesion by the first intention, took place over the greater part of the surface, the ligatures came away in seventeen days, and in four weeks from the operation, the parts were entirely healed and complete health restored. Capt. T. never had either gonorrhœa or venereal; neither was he affected by stricture. The body of the testicle contained about three ounces of bloody pus, which in a short time must have found its way to the surface, and caused abscesses. Otherwise, except in density and size, it was apparently natural. Could the contained fluid in the body of the testicle have given, through its thickened walls, the sense of fluctuation, which was perceived upon the first examination? This case goes to show, that even so plain an affair as hydrocele and enlarged testicle may be compounded.

In cases of highly irritable testicle, all palliatives have been, eventually, found useless: and nothing in such cases will succeed but extirpation. Why then hesitate to recommend orchotomy, in preference to years of indescribable suffering? The procreative faculty has been found equally active with a testis, as with testes; a fact strongly exemplified some years ago, in the case of an employé in this Navy Yard. The remaining testis of Capt. T. is in as good condition as could be expected from a man of his age. It was proposed to give him chloroform; which he refused, being of a very resolute disposition: he is now at sea, in command of his own vessel.

Case of congenital glossocœle, or hypertrophied tongue.—Miss Sarah Fernald, aged twenty, a native of Kittery Point, Maine, was born with her tongue protruding from her mouth. It had literally grown with her growth, and strengthened with her strength, until it became a constant nuisance to herself and a disgusting sight to the beholder. She is a finely formed, sprightly, and intelligent girl; has never had any disease save this of the tongue, and a scrofulous ulcer of the sub-maxillary gland, which discharged for some time, and then healed spontaneously. The legend her mother relates is, that when some seven months advanced with this child, she longed for pomegranates, which she had never seen except in a picture, and which desire continued with her till the birth of Sarah. Irreconcilable as it is with common reasoning, and incomprehensible, according to our present knowledge of the power of the mother's mind over the *fœtus* in utero,

yet we cannot deny the fact, that strange impressions are made through the medium of the mother's fancy upon the unborn infant. The tongue of Sarah did, through infancy, and until amputation, retain the appearance of an open pomegranate,—the enlarged and diseased papillæ closely resembling the seeds of that fruit. I was requested to examine the case, with reference to the feasibility of an operation. I found, as I have described, a handsome intelligent girl, with a tongue protruding (from upper teeth to apex) a little over four inches, circumference seven inches, and thickness at middle of tongue, two inches—indeed the tongue was of nearly the same thickness from root to apex. A deep linear fissure occupied the dorsum of the tongue in its whole length. The protruded portion was quite dark, owing to the number of vesicles filled with blood; and the part in the cavity of the mouth was also covered with these vesicles, and enlarged papillæ,—but in a lesser degree. The substance of the tongue was extremely hard, and scarcely susceptible of pain: and was constantly pouring out a profuse, viscid, and offensive exudation. The tongue could not be retained in the mouth except for a moment; as its intrusion filled the whole cavity of the fauces, and prevented respiration.

The inferior maxillary bone was natural in form, except at the symphysis, where the incisors and canine teeth were separated half an inch, and inclined outwards by the constant pressure and weight of the tongue. The lower teeth were covered with tartar, and rather loose in their sockets, and the lower lip everted on the chin.

She had never been able to masticate with her tongue in the mouth, and consequently lived mostly upon fluids. She was subject to painful periodical swellings of the tongue, every six weeks or two months, during which time she would almost reach the point of starvation, from absolute impossibility to swallow any nourishment for a number of days. During these periodical turns (which had no connection with the menstrual discharge, the latter being always regular) profuse hemorrhage would sometimes take place from the tongue, which at these times looked, as she expressed it, as black as my hat. She could make herself understood, though her words were very thick, and given with a lisping utterance. My advice was requested in this painful case, with the promise that it would be acceded to in all things. I was prepared for such a contingency, by a knowledge of the operation, and success of my former preceptor, Dr. Thos. Harris of the U. S. Navy, now chief of the Bureau of Medicine and Surgery, Washington. A description, with a plate of Dr. Harris' case, may be found in the seventh volume of the *American Journal of the Medical Sciences*, Oct. number, 1830.* The similarity in both cases is remarkable; the prin-

* On the 26th of May, 1835, another operation, similar to the one here mentioned, was performed by Dr. Harris upon the tongue of a young man, aged nineteen, from Tennessee, who had been induced to apply for relief, from having heard of the success of

cial difference exists in the one being a congenital disease, the other not. The plate of Dr. Harris completely represents the tongue of my patient, save the tartaric deposit: in other respects they are alike;—with a balance in favor of Miss Fernald, on the score of youth and beauty.

I decided upon amputation, recollecting the difficulties Dr. Harris encountered, in his attempt at strangulation by ligature, and his failure so to do. Also, his urgent advice to avoid, by amputation, a painful and fruitless proceeding.

On the 30th of May last, assisted by Dr. Oliver, of Portsmouth, I operated in the following manner:—The patient being seated in a chair, her head supported by one assistant, and hands secured by others, I forcibly drew the tongue outwards and downwards by a strong forceps, commenced a Δ incision with a bistoury on the left side, carried it to the median line a little inside of the upper incisors, turned and cut outwards.

Thus, with two strokes excising the part, which was of great density and hardness. A formidable jet of blood immediately issued from the dorsal and ranine arteries, which were, of course, preternaturally enlarged.

I tried to control the hemorrhage by torsion, which failed, as the arteries were so impacted in the surrounding substance that I could not draw them out. Compression was quite as unsuccessful; dossils of lint, wetted with iced alum water, were no better, and so I proceeded to tie the dorsal and ranine arteries, which I did without trouble, and thus effectually stopped the hemorrhage.

The patient all this time suffered so little pain, that the moment the arteries were secured she jumped up and ran to the mirror, to see the effect of the operation. The ligatures were cut off close to the knot, hoping that in their course outward the suppuration might tend to lessen the great thickness of the tongue.

The flaps were now brought together, (the coagula having been carefully removed with iced alum water,) and secured with four interrupted sutures. When this was done, the tongue was of good shape, and no point of cut surface remained exposed. Length of tongue removed, two inches and three-quarters. For nine hours after the operation the tongue remained within the mouth; inflammation and swelling then set in and protruded it. The only dressing applied was a dossil of lint, wetted with ice water. There was no secondary hemorrhage. On the sixth day three of the

the first case. In this patient, the enlargement was congenital;—the tongue projected beyond the upper incisors, three inches—circumference six inches—vertical thickness, one inch and a-half,—of a violet colour, hard and incompressible consistence, and covered with a dark slimy secretion. The deformity was so great, that he was obliged to wear constantly a silk handkerchief over his mouth, and around his neck.

The result of the operation was complete; and the gentleman subsequently became a practitioner of medicine, in his native state. The details of this case, with descriptive plate, may be found in vol. 20th, *American Journal of the Medical Sciences*, 1837.

sutures were removed, and on the twentieth, complete union had taken place by the first intention. The turn of periodical inflammation had come round by this time, and the tongue became slightly swollen, and the sub-maxillary gland of the left side very much so. The application of half a dozen leeches with saline purging quickly subdued this attack. The patient had been put upon the *unct.* of iodine, and it was continued with benefit.

On the 5th inst., Miss Fernald, for the first time in her life, chewed with the tongue in the mouth. It is now kept within the teeth, like any normal tongue, and protruded with slight difficulty. The exudation is very trifling—not sufficient to afford the slightest inconvenience, and altogether deprived of unpleasant odour. On the 10th inst. I had occasion to remove the lower incisor teeth, their horizontal projection having caused ulcers in the lower lip, which has now assumed its natural position, and completely closes the mouth. On the 25th of July Miss Fernald paid me a visit at the Navy Yard, and I take pleasure in saying, that a more comely looking girl, or one better pleased with her own altered condition, can rarely be found.

The fear of hemorrhage has deterred surgeons from amputating any considerable portion of the tongue. The recorded case of Dr. Harris, and the present one, are the only operations of the kind that I have any knowledge of, in the United States.

The tongue may be operated upon with as much safety as any other organ in the body, and its great vascularity ensures a more speedy union. But no operation by ligature should be attempted. The knife alone is to be relied upon, and the arteries being secured, and parts adjusted, as in the Λ incision, very little need be feared from secondary hemorrhage.

In confirmation of the above opinion, I may be permitted, briefly, to detail the following case:—

In October, 1845, I was attached to the U. S. sloop-of-war *Saratoga*. We were then lying at anchor, off the Island of Sacrificios, at Vera Cruz. At sun-set, on the approach of a norther, all hands were engaged in sending down top-gallant masts, striking top-masts, &c. Midshipman Joseph F. was stationed on the poop, and whilst standing at the taffrail, and looking aloft, the spindle of the mizen lightning rod, weighing some five pounds, came down by the run, the point of it striking Mr. F. on the left upper lip, carrying away the left upper incisor and canine teeth, fracturing slightly the superior maxilla, passing obliquely through the middle of the tongue, and the middle of the right sub-maxillary gland, and after grazing the sheath of the carotid, protruding some four inches through the skin, over the sternomastoideus, three inches below the angle of the jaw. Of course he was felled to the deck, and it required much force to withdraw the spindle. Immediately upon effecting this, a rush of blood took place from the wound;

but my assistant, that very clever young surgeon, Dr. Bernard Henry, who was standing alongside of Mr. F. at the time of the accident, applied pressure to the neck with his fingers, and had him conveyed to the cabin. The hemorrhage was considerable; but it was evident, in a moment, that the carotid was intact, and that the superior labial, dorsal artery of the tongue, sub-lingual, and probably a branch of the superior thyroid, were the principal arteries involved. The cut surface of the upper lip being smooth, was closed by sutures. The spindle had rather a sharp point, which was coated with platina. Cold acidulous drinks were given, and perfect quietude in the horizontal position enjoined.

The teeth were never found: the tongue had the appearance of having one of them embedded in its centre, but it could not be felt. For two days there had been free bleeding from the mouth, and lower orifice on the neck; and styptic applications, without pressure, were the only means admissible. We were ready at any moment, if requisite, to tie the common carotid, below the superior thyroid; but after forty-eight hours, the bleeding, in a great measure, ceased. The period of sloughing was watched with some anxiety, but it passed by without hemorrhage: and in the course of four weeks, the patient was about decks again, the wounds all having healed, and with a scarcely perceptible scar upon the upper lip. The middle of the tongue remained enlarged; and whether from this cause, or injury of the sub-lingual nerve, there was a slight impediment in the speech, for a few weeks. Had the arteries of the tongue only been involved in the injury, I should not have hesitated to pass a strong curved needle with a ligature, through that body, and thus command the hemorrhage:—so little danger is there, in my opinion, in operations upon this organ. To the untiring attention of assistant-surgeon Henry was the patient mainly indebted for his speedy and happy recovery.

NAVY YARD, Portsmouth, N. H., July, 1848.

ART. III.—*Extracts from the Records of the Boston Society for Medical Improvement.* By SAMUEL PARKMAN, M. D., Secretary.

Jan. 24th, 1848.—*Hydrocephalic Child.*—Dr. Storer presented two drawings for the cabinet, and read the following account of the case with measurements, &c. The child was examined at Brighton October 29th, 1847. It was then five years and six months old. It died about a fortnight since, being about five years and nine months old.

Its head measured as follows:—

Circumference, $27\frac{3}{4}$ inches; from centres of meatus auditorii, $17\frac{3}{4}$ in.; from base of nose to occipital ridge 19 in.; from base of nose to hair on

forehead, $3\frac{3}{4}$ in.; from meatus to posterior fontanelle, $5\frac{1}{2}$ in.; from forehead to occiput, $10\frac{3}{4}$ in.; greatest transverse width, $7\frac{1}{2}$ in.; from meatus to frontal protuberance of the same side, $4\frac{1}{2}$ in.; space between internal canthi $1\frac{3}{4}$ in.; weight of head $10\frac{1}{2}$ lbs.; of body, including head, $22\frac{1}{2}$ lbs.; fontanelles nearly ossified.

The head was large at birth, and increased rapidly during the first six months. The growth of the body has been very slow; the muscles of the extremities are attenuated and feeble; he has never been able to bear his own weight; when a year old he crept; but he makes no effort to move now; he either sits upon the floor or is supported in a chair.

He is easily frightened; has had frequent falls with injury to the head. When fourteen months old he had two convulsions, supposed owing to indigestible food, and has since frequently appeared as if about to have a recurrence of the fits. Had no increased difficulty while teething; had *chicken-pox* and *whooping-cough* the same winter without any particular trouble. The appetite has always been good, and he has eaten as much as common children. The sleep is good, and he uniformly wakes early in the morning, and seems cheerful and happy. Although the evacuations have not passed involuntarily, yet, for the most part, they have occurred without giving warning, resembling infants in this respect. The urine has always been passed in bed, and has sometimes been immoderate in quantity.

Tapping in Hydrocephalus.—Dr. S. Parkman had performed this operation five times at intervals of a week in a child six months of age, drawing off about ten ounces of fluid each time; the punctures were made at the anterior fontanelle, on the side of the median line, and the instrument, a fine trochar, entered about two inches. The head measured twenty inches in circumference, and the fontanelles were large and bulging. The child was comatose; occasionally moaning; pupils dilated and insensible without strabismus. Pulse small and feeble; appetite as usual, and bowels inclined to costiveness. After each tapping, the head was carefully strapped with adhesive plaster, and the child aroused in a very marked manner. The fluid, however, rapidly regenerated each time, and death occurred after the fifth tapping, without any change of symptoms. At the autopsy the convolutions were found flattened, and the cerebral substance about half an inch thick; the ventricular cavities contained a pint of clear fluid. No signs of inflammation produced by the operations.

Drawings and Daguerreotype views of Intestines, consequent upon the Diarrhœa following British Typhus, as seen in Boston.—Dr. Bowditch exhibited these, the property of Dr. Upham, who had caused them to be executed, the former by Mr. Leagur, the artist; the latter, by Mr. Whipple. The appearances were remarkably well shown in both cases. The

appearances were a vivid redness of the upper portion of the small intestine, and the mucous membrane near the ileo-cæcal valve was thrown into large elevated transverse rugæ of a mottled red and dark or dirty white colour. Some of these rugæ (in the original specimens) were three or four lines high and one thick. The intervals were paler; but the whole of the membrane had lost its wonted polish. Peyer's patches were seen perfectly healthy, making depressions in the rugæ. The large intestines were greatly discoloured, and the mucous membranes thickened, and in parts ulcerated. The isolated glands were very distinct in the plates. Dr. Upham had noticed, among the emigrants convalescing from typhus, a disposition to diarrhœa, with slimy, but rarely bloody discharges; at times relieved, usually only temporarily so, generally returning with increased severity, and almost universally fatal. This symptom commenced ten or twelve days after convalescence, usually traceable to some dietetic error. Death took place usually from one to two months after the diarrhœa began, and, on examination, the above appearances, or others wholly similar, were universally observed.

Feb. 14th.—Spontaneous Laceration of the Pericardiac Aorta.—Dr. J. B. S. Jackson exhibited the specimen from a patient of Dr. Catling, of Roxbury, associate member of the society. A man, sixty years of age, of healthy appearance, but rather dyspeptic, ate heartily of ham at breakfast, to which he was not accustomed, and again at noon. In the evening he complained of nausea and faintness, and by Dr. C.'s advice took an emetic. The pulse was noted as rather small. Nothing unusual occurred during the first part of the night; but about two, his wife was awakened by his oppressed breathing, and he soon died.

On dissection, the cavity of the pericardium contained about six ounces of fluid and coagulated blood. The aorta, which was shown to the society, presented a laceration about half way between the valves and the arch, extending through the entire thickness of the vessel, and in a spiral direction, so as to involve more than its circumference. The pericardium was stripped up from the anterior face of the aorta, forming a large cavity filled with blood, and which had finally burst. In regard to structure the ascending aorta was almost perfectly healthy, and the descending portion was but moderately diseased. The edges of the laceration were nearly as smooth as if cut with a knife. The heart and other organs were healthy.

Colloid Cancer of the Stomach.—Dr. J. B. S. Jackson presented the specimen from a patient of Dr. H. Storer, a short, fat, healthy looking woman, of forty-five years of age. The antecedents were dyspeptic feelings for a year; frequent vomiting, with distress at stomach, and loss of appetite for five or six weeks—two weeks before death. Dr. S. being consulted, discovered epigastric tumour. The appearance of health was

preserved to the last, and the patient was out as usual within a month of her decease.

The stomach, which was presented to the society, and is in the cabinet, showed the appearances of colloid cancer very well marked, involving the entire circumference of the pyloric portion to the extent of four or five inches, and encroaching slightly upon the duodenum. The mucous membrane was first affected, and afterwards the muscular, the sub-mucous cellular tissue being but little implicated; the maximum thickness was two-thirds of an inch; the surface was ulcerated to but a slight extent. From the anterior face of the stomach there projected externally a mass of the same disease of considerable size, and from the posterior face a similar one, but smaller. Two or three other small masses were also seen in the substance of the organ near the small curvature, and in the omentum near the large curvature were traces of the disease. The stomach was large and the mucous membrane in the portion not diseased, presented a uniform redness without other change. All the other organs were perfectly free from malignant disease.

28th.—*Rupture of the Aorta.*—The specimen was presented by Dr. Jackson, who gave the account of the case as follows:—A man, fifty-six years of age, and enjoying good health, was out of town on Tuesday afternoon, returning in the evening, and supping about 9 P. M. Soon after, he was seized with pain at the epigastrium, extending through to spine. During the night there were vomiting and inability to lie down. In the morning Dr. Gay saw him, and prescribed opiates with some relief. The pain continued during the day, which was passed without lying down, and he died at 4½ P. M. At the autopsy about two or three ounces of blood were found in the pericardium, and the aorta was ruptured in about two-thirds of its circumference just above the valves. The internal coats of the artery having given way, the blood had dissected a passage for itself until it finally reached the internal iliacs, where perforation of the inner coat again took place upon the right side, and the blood returned into its former channel; the branches from the arch were also dissected. This dissection involved mostly the posterior parietes of the aorta, and nearly or quite one-half of its circumference, the fibres of the middle arch being seen upon both surfaces along the false passage. The tissues of artery were nowhere much diseased, and apparently perfectly healthy at the place of rupture, except an appearance as of an old laceration, which had been cicatrized just above the valves.

Apparent Conjunction of Cancer and Tubercle in the same Organ—the Testicle.—Dr. Jackson presented the specimen removed by Dr. S. Parkman at the Hospital. A married man, thirty years of age, eighteen months since first noticed a swelling of the right testis, which has gra-

dually and without pain attained the present size, that, say, of two oranges. Six weeks since, in the country, it was punctured under the idea of its being a hydrocele, which it much resembled in shape. Since then a little pus had been squeezed out each day at the opening. The integuments were tense, with several enlarged veins, and non-adherent except at the point of puncture—from which a drop or two of pus exuded, of the character usually styled scrofulous. The size of the tumour, the enlarged veins, the non-adhesion of the integuments, and the peculiarly elastic feeling suggested malignant disease; but the scrofulous pus seemed clearly to indicate tubercular deposition. The organ exhibited showed the whole of the testicle to be the seat of a tubercular abscess, which had destroyed nearly the whole tissue, while the epididymis showed well marked encephaloid disease. Dr. Parkman had examined both these tissues microscopically, and found in the latter a well marked stroma, and the irregular nucleated cells as signs of malignant disease; in the former the microscopic appearances were not perfectly conclusive as regards the disease being tubercular. Dr. Jackson spoke of this yellow, opaque, tuberculoid formation, as he called it, as being not at all uncommon in otherwise well characterized encephaloid masses.

March 13th. Arm presentation—delivery effected with the aid of Etherization.—Dr. Channing within three weeks had seen three cases. In the first, the cord and hand were in the vagina. Chloroform was administered, a foot reached, and the child was born alive. In the second, labour had continued four days, and the child had been dead some time. Ether was employed, and turning effected, and the mother did well. In the third, Dr. C. saw the woman on the fifth day, as reported by the attendants—the child was dead, and the arm enormously swollen. Etherization was effected; amputation at the shoulder and evisceration practised, and the mother did well. In all three, the advantages of the anæsthetic state were well marked, both in the facility it afforded to the operator, and the prevention of suffering for the mother.

27th. Paralysis of Long Thoracic Nerve.—Dr. Bowditch exhibited the subject, a man twenty years of age. The antecedents were typhoid fever in November, convalescence from which was rather tardy. The deafness was considerable, which still continues slightly. During convalescence, he observed the right arm weaker than the other, especially in all the motions requiring its raising. He commenced work, that of a soap stone cutter, about ten days since, when one of his companions noticed an unusual prominence of the shoulder-blade. The phenomena at present, and as exhibited to the Society, are:—a very slight projection of the base of right scapula from the side of the chest. When the arm is raised forwards, this projection increases in a very extraordinary degree, the base of

the scapula forming a high ridge, admitting the fingers to be passed quite into the fossa subscapularis. The arm cannot be raised above a right angle. The serratus magnus anticus was evidently the paralyzed muscle.—When the scapula is supported behind by the hand of another, the arm can be readily raised by the patient. There is no other paralysis, or affection of the nerves of special sense, save the slight deafness already mentioned. General health good. A mechanical support and electricity were suggested as treatment.

April 10th. Ovum blighted and retained for a long time.—Dr. Jackson presented the specimen from a patient of Dr. Putnam. A healthy woman, mother of nine children, supposed herself to have conceived in November. All the symptoms of pregnancy were not present, however, and the existence of this condition remained uncertain, until abortion took place, about a week since. The fœtus which was exhibited was about the size of a fly. The point of interest, Dr. J. remarked, was the retention of the ovum so long after its blight, of which there have been several instances presented to the Society, though such cases are not described by obstetric writers, so far as he is aware.

Very large bodies successfully removed from knee-joints.—Dr. Stedman presented the specimens to be placed in the cabinet. The patient was a man, forty-three years of age, confined in the House of Correction as a common drunkard. At the age of seventeen he began to have swelling of the knees, with severe and constant pain, without any known cause. This continued for about three years, when he first discovered a movable tumour in right knee, just above patella, which has continued to increase till the present time. A similar tumour soon after appeared in the left knee. These tumours have had the effect to impede walking, he being often suddenly seized with pain in the knee, and inability to move further, the tumours being always perceptible at these times. These tumours have increased with his age. Dr. S. operated upon the right knee March 22d, and on the left, April 1st. In both cases, the bodies were brought to the outside of knee, and being maintained there, the skin over them was drawn to one side, in order that the wound of the capsule of the joint might not be parallel with that of the surface, and an incision made upon them, by which they were at once set free. The wounds were united by the etheral solution of gun-cotton, and there was not the slightest inflammatory action. At the expiration of his sentence, the patient walked with perfect ease.

The bodies were composed of fibrous and osseous tissue, in about equal proportion.

The first removed weighed -	-	-	-	283 grs.
2d " " -	-	-	-	257 "

The length of the first was	-	-	-	$2\frac{1}{16}$ inch.
width	"	"	-	$1\frac{7}{16}$ "
thickness	"	"	-	$\frac{5}{8}$ "
The length of the second was	-	-	-	$2\frac{3}{8}$ inch.
width	"	"	-	$1\frac{1}{16}$ "
thickness	"	"	-	$\frac{9}{16}$ "

Trepanning of the inferior Maxillary Bone, and removal of a piece of the nerve of the same name.—Dr. Mason Warren related a case in which an operation had lately been performed by Dr. J. C. Warren, on a patient who had suffered the most excruciating torture from neuralgia, without any relief from long-continued and various modes of treatment. Since the operation there had been no return of the paroxysms. The bit of bone, marked with the groove for the passage of the nerve, was exhibited.

Effusion into pleural cavities suddenly fatal after scarlet fever.—Dr. C. E. Ware had attended a child, four or five years of age, with mild scarlet fever, from which the convalescence was good. A week after his discontinuance of visits, he was recalled, and found general anasarca. Under the use of diuretics, as uva ursi, this disappeared, and quinine had been prescribed and taken one day.

The next morning, the child was well enough to be playing about the house, but was observed to have a little shortness of breath, which gradually increased towards the latter part of the day, unaccompanied by any other symptoms. After taking a light supper, the dyspnœa became rapidly worse, and the child died in about four hours, from a gradually increasing suffocation. Percussion of both backs gave a dull sound, and there was absence of the respiratory murmur. Dr. W. diagnosed rapid dropsy of the pleural cavities. A similar case had occurred in his practice a year or two since.

Polypus of the Intestine.—Intussusception.—Dr. J. B. S. Jackson exhibited the specimen from a patient of Dr. C. Wild of Brookline, a female of seventy-five years of age. Although the bowels were habitually regular, she had taken aloetic pills twice, during the three weeks prior to her disease, on account of vertigo, &c.; these had operated mildly, and on a Sunday, she took the same for the third time; on Monday she had three discharges, and with the third, while in the privy, was seized with severe pain in the region of the cæcum. Dr. W. being called, discovered a tumour in the seat of the pain, tenderness about the umbilicus, with tympanitis in that region, and a contraction along the arch of the colon. The pain was relieved by an enema, and returned only once, and that but for a short time; there was a little nausea on Tuesday; she continued much prostrated until Friday, and then died. During these five days, large ene-

mata, several ounces of castor-oil, and one day five drops of croton oil were administered; the enemata were generally followed by discharges of bloody water; there was no fecal dejection after Monday, and no tenesmus except after the enemata. The tumour continued until death.

The specimen showed a polypus the size of the thumb, in the small intestine,—three feet from the cæcal valve, attached by a short pedicle; the invagination commenced here, and the polypus protruded into the large intestine three inches beyond the valve, and the whole was closely impacted—much swollen and infiltrated with serum and blood, and of a deep red colour. Above the invagination, the intestine contained a great quantity of liquid, and some oil; and below it was proportionately contracted.

Statistics of Cancer.—Dr. L. Parkman gave the result of the examination of the Hospital Records upon this subject. It appeared, that in 1847 there had been twenty-four operations for cancer,—four times as many as in any year since 1822, when the hospital was opened. This was in a considerable degree to be attributed to patients being attracted by the advantages to be obtained from etherization. Of cancer of the breast, there had been seventy-five cases since the opening of the hospital, and five of these had died: two of erysipelas, and three of internal disease, which existed at the time of operation, and should have precluded it. The results as regards the future state of patients, could not be known: the only fact shown was, that the operation was not a dangerous one.

24th. Ovarian Cyst.—Dr. J. B. S. Jackson presented the specimen from a patient of Dr. Thaxter, of Dorchester, a lady fifty years of age, married at forty, and who had had one child. The disease was of about four years' duration, and nearly six hundred pounds of fluid had been drawn off at different times,—sixty-four pounds even at one operation; the fluid was colourless and glutinous. The chief suffering was from distension, and the patient gradually sunk under the disease. The diseased mass, as shown to the Society, consists of one very large, dense, whitish cyst, with numerous smaller growths. These latter varied from one to five inches in diameter, and are of a regular rounded form, some being pedunculated, and others attached by a hard base to the interior of the large cyst. On being cut through they seem to consist, mainly, of an extremely viscid, gelatiniform substance, nearly, or quite transparent; mostly colourless, though in some of the masses deeply tinged with blood, and in a few of them is seen a soft, yellowish, opaque deposit; this is contained in a coarse lax cellular tissue, and surrounded by a membrane that is easily ruptured; no appearance of encephaloid disease. The uterus is much elongated, especially upon the side corresponding to the cyst, as so often happens in this disease. Right ovary healthy.

Congenital Abscess of Lachrymal Sac.—Dr. Bethune has observed this in a child, existing from its birth. He supposed it dependent upon malformation of the passage. A style was passed, though it was uncertain whether it did not pass by the os unguis. Dr. B. did not find similar cases recorded, except one by Berârd, of a congenital fistula of the sac.

May 8th.—Imperforate Rectum.—Dr. S. Parkman was called to the child fifty-two hours after birth, a male, born under the care of a midwife. No stools had passed; the abdomen was greatly distended and tympanitic, and the superficial veins much distended; there was constant vomiting of a thin yellow fluid. The anus was well formed and admitted the finger about half an inch. No protrusion, however, was felt. A trocar, and afterwards a sharp-pointed bistoury were passed up about an inch and a half in the direction of, but without reaching, the gut. The child died a few hours after. The specimen, which was exhibited, showed the rectum enormously enlarged, this being the consequence of its formation, and not the result of distension, as the sigmoid flexure terminated in it of the natural size. The rectum terminated in a blind pouch more than an inch distant from the small portion connected with the anus. Only loose cellular tissue intervened between the two portions. The specimen is in the cabinet.

June 26th.—Encephaloid Tumour from Labium Pudendi Externum.—Dr. J. B. S. Jackson presented the specimen removed by Dr. Lewis. It is a perfect example of the disease, two inches in diameter and well defined. The patient is a respectable married woman, forty-three years of age. At the age of eighteen she had a disease in the left groin near the labium, which was removed a year afterwards. At the age of twenty-eight the disease reappeared, and was again removed. As the result of these operations a scar now remains about three inches in diameter and surrounded by warty excrescences, which are said occasionally to disappear. No warts upon the labia as in elephantiasis. The encephaloid mass exhibited was first noticed six months since, and has grown rapidly with an occasional twinge, but scarcely any pain; before the operation it was fleshy to the touch; of a rounded form; movable and situated just beneath the skin, which was not adherent, and but slightly abraded in one point; there was scarcely any discoloration.

Chronic Ulcer of the Stomach; Hemorrhage from the Splenic Artery.—Dr. J. B. S. Jackson presented the specimen sent by Dr. S. Salisbury, of Medway, and taken from a man, who for three years had suffered from pain referred to the right hypochondrium, and which, during the last year from its increase, had incapacitated him from business. Six weeks before death there had been a copious hæmatemesis, and this had occurred at in-

tervals of one or two weeks since. The countenance was sallow throughout the disease. The stomach, which is in the society's cabinet, presents, in the pyloric portion, posteriorly close to the small curvature, a pale circular ulcer an inch in diameter, without induration or thickening, and passing through all the coats. The pancreas forms the base of the ulcer, which is adherent to it. Some of the granulations of this gland are seen, though the surface of the ulcer is mostly smooth. The large open orifice of an eroded artery is very conspicuous, and examination shows this to be the splenic of full size, and as healthy as usual in persons past middle age. The lips of the orifice present nothing unusual, and there is no clot in the interior of the vessel. The pancreas is otherwise healthy, and also the stomach; which, however, was found, on dissection, full of coagula and serum. An interesting point in this case was the sallowness of the countenance, which is generally considered characteristic of malignant disease.

July 10th.—Ovarian Cyst containing Hair, &c.—Dr. J. B. S. Jackson exhibited the specimen. The case occurred some years since in the practice of Dr. Harper of Sandwich, and the specimen, preserved in spirit, has been recently brought to the city by Dr. Lewis, and is by him presented to the society for their cabinet. The patient was an unmarried female, forty-nine years of age, and died from an attack of cholera. The general health was not good; countenance sallow, and the enlargement of the abdomen dated from a severe sickness that she had had thirty-three years before death. The cyst contained, by estimate of Dr. H., not less than two gallons of a muddy chocolate-coloured fluid, and floating in this a mass of hair and fat, the size of a full-grown foetal head. The hair grows from the interior of the cyst by a peduncle more than a foot in length, like a scalp lock; the pores upon the surface from which it arises being well marked as in one of Cruveilhier's plates, which is shown with the specimen. There are also one or two other quite small patches of cutis on other parts of the cyst from which hair arises, besides some scattering hairs, about the origin of which there seems to be no especial development. Connected with the large cyst, and opening freely into it, is another, nearly the size of the first, and filled with two distinct masses of hair that seem to have no connection with its interior. In the walls of each of these cysts, but especially in the smaller one, there is a very considerable bony deposit, but no appearance of teeth, nor anything like a distinct foetal bone.

ART. IV.—*Experimental Inquiry into the correctness of M. Poiseuille's explanation of the purgative action of certain substances.* By GEO. WYMBERLEY JONES, M. D., of Ga. (Extracted from an inaugural dissertation for the degree of M. D., in the University of Pennsylvania.)

M. POISEUILLE declares, that when animal tissues are interposed between the serum of the blood and solutions of sulphate of soda and chloride of sodium, endosmose takes place from the serum to the saline solution. The inference drawn from this is, that the action of purgative salts upon the stomach and bowels of a living being, is a physical one; that, in short, the catharsis produced by these medicines, is nothing more than an endosmose of the serum of the blood, through the coats of the containing vessels to the saline solution within the intestine.

But the most remarkable of Poiseuille's assertions is, that he has discovered that the hydrochlorate of morphia exercises a peculiar influence over the direction of the current. He says that when it was added to the saline solution, the endosmose from the serum to the solution was considerably diminished, and its direction finally reversed.

Attracted by the novelty and interest of these announcements, I determined to try a series of experiments, with a view to ascertain how far the operation of all the cathartics was influenced, or might be explained by this endosmose; and to discover whether the action of the astringents would correspond with the requirements of the theory.

Accordingly, I caused four instruments to be made, after the fashion of Dutrochet's simple endosmometer: and as they were all exactly similar to each other, a description of one will suffice.

It consisted of a glass tube, one-seventh of an inch in diameter, and five inches in length, attached to a scale, which was graduated to the twelfths of an inch: its lower end expanded into a cup-shaped cavity, projected beyond the extremity of the scale; and the rim of the cup, instead of terminating in an edge, was rolled upwards externally so as to form a good place of attachment for the ligature, which bound the membrane, and thus to guard securely against the escape of the liquid within the tube.

In every case, the serum of the human blood was the liquid placed inside of the tube; in every case, a fresh gastric mucous membrane was the one employed; and in every case, the membrane was so arranged, that it should present to the external liquid the same surface with which that liquid would have been in contact had it been taken into the stomach of the living animal. In this manner, the surface of the mucous membrane, which, in the natural state, is next to the tunica propria, was always in contact with the serum; and the surface which usually faces the cavity of the stomach was always exposed to the external liquid.

The first thing to be done was, to verify Poiseuille's first experiment, and

this was effected without any difficulty. Upon placing an endosmometer, containing serum, and covered at the bulb by a portion of the fresh gastric mucous membrane of a hog, in a solution of sulphate of soda,—endosmose took place from the serum to the solution: and the same thing happened when common salt was substituted for the sulphate of soda.

It then occurred to me, that a good test for the truth of Poiseuille's theory would be to try the effect of the astringent salts upon the direction of the current.

For if, according to his notion, the purgative salts operate by causing the endosmotic current to flow in one direction, the astringent salts ought to cause it to flow in exactly the opposite one.

Indeed, it is evident, that unless these two classes of medicines produce different directions of the current, the action of neither of them can be accounted for by endosmose; and Poiseuille's theory must be deemed untenable.

I therefore introduced other endosmometers, prepared as before, one into a solution of alum, and a second into a solution of acetate of lead. In both instances endosmose occurred *from the serum to the solution*, in the same direction as when sulphate of soda was used, but with somewhat less rapidity.

But it is my misfortune to disagree with M. Poiseuille on a still more important point; and that is the influence exercised by morphia, when added to a saline solution, in retarding and reversing the current. He used the hydrochlorate of morphia, but I preferred the sulphate, as being most commonly used in medicine.

I placed an endosmometer, prepared as before, in a solution of sulphate of soda; and when the usual action was fully established, added some of the sulphate of morphia. Finding no effect produced I added more—and more again, without causing the slightest diminution in the rapidity of the endosmose from the serum.

I will confess to considerable disappointment at the issue of this experiment. I felt anxious to verify that of Poiseuille: but all my endeavours to do so were of no avail. The morphia was obstinate and would not be persuaded.

But in order to ascertain the influence of morphia upon the direction of the current, the sulphate in solution was placed in a vessel by itself, and an endosmometer immersed in it as usual to about one-fourth the length of the instrument. The current flowed *from the serum to the morphia*.

The same effect was produced by the nitrate of potassa. A solution of tannic acid caused a current from the acid to the serum, with a rapidity which was diminished when the solution was made stronger.

When the infusions of black-hellebore, jalap, and colocynth, were employed as the external liquids, the results did not correspond with their cathartic action; the same thing was also observed of the solution of elaterium.

When, instead of the gastric mucous membrane of the hog, that of a woman, obtained shortly after death, was employed, the results were precisely similar to those already stated.

That there are phenomena occurring in the human body which are properly explicable by endosmose, is undoubtedly true; but that catharsis is one of those phenomena appears to me entirely inadmissible, and I confess my inability to understand how any man could infer that cathartics purged by means of endosmose, from the simple fact of serum permeating a membrane to mingle with sulphate of soda. If there had been no affinity between the liquids, there would have been no endosmose; for we know it to be dependent upon such affinity. Are we then to believe that the action of purgatives is dependent upon their affinity for the blood? And does it follow that because sulphate of soda produces a current from the *serum*, it would therefore produce a current from the *blood*? When, moreover, this latter fluid contains substances, organic and chemical, sufficient to modify and alter any endosmotic action?

How, by this theory, are we to account for the operation of purgatives endermically applied? how for the fact that a drop of croton oil placed on the back part of the tongue will act as a cathartic?

ART. V.—*On the use of the Warm and Vapour Baths.* By S. KNEELAND, Jr., M. D.—Boston.

IN a former number of this Journal, (for July, 1847,) we fully treated the subject of hydrotherapy, in as far as *cold* water forms a part of it: we would now complete the subject, by considering the use of *warm* water and *vapour* in medicine. Though, as we have formerly observed, *cold* water may be employed in many cases where *warm* and *hot* water are commonly considered necessary, still, there are certain diseased conditions, certain idiosyncrasies, where *cold* water will be found less beneficial than *tepid*, *warm* or *hot* water.

Physiological action of the Warm Bath.—This may, in a great measure, be inferred from the well-known phenomenon of life during warm weather, depending on increased peripheral circulation—the face becomes injected, as well as the general cutaneous surface; the pulsations of the heart, and the respiration are more frequent; the cutaneous and pulmonary exhalations are increased, and a proportionate increase of aqueous drinks becomes necessary to supply the waste. From this derivation from the internal organs, persons suffering from congestion of these organs find themselves better in summer than in winter.

From Hale's experiments, according to Magendie, it is proved that the movement of fluids through tubes is rapid in the ratio of their temperatures; that, the greater the heat, the more rapid the circulation. To prove this, *cold* water was injected into the mesenteric artery of an animal, the vein and anastomosing branches in the neighbourhood being tied; it returned by the vein in a given time:—the same quantity, at a *medium* temperature, and under the same pressure, passed eighteen times quicker; when *hot* water was used, the velocity of its passage was thirty-two times greater than that of the lukewarm fluid.

It must be recollected here, as well as for the cold bath, that the thermometer is not a sufficient guide, as what is warm for one, may be cold for another, according to individual sensibility. According to M. Edwards, (*De l'influence des agens physiques sur la vie*, Paris, 1824,) there is a great difference, in warm blooded animals, in the power of producing heat, according to season; in summer the calorific power is less, in winter it is greater, than in spring and autumn. The same is, to a certain degree, true of our artificially increased temperatures; for instance, in the midst of winter, it would be improper, and perhaps dangerous, to take a person from a temperature of 25° F. and plunge him into a bath at 100° F., without passing through the intermediate degrees of heat; the system requires time to oppose its "spontaneous sedation" to the exciting effects of heat;—a much higher temperature than this may be endured, by gradually passing from one extreme to the other. The temperature of the human body is 98° F.; but, as the calorific power is different in different individuals, the indications for the application of heat can only be known from experiment, from the impressions of the patient, the temperature of the surface, and the visible phenomena during the application.

The *tepid* bath, from 86° to 92° F., is rarely used as a hygienic agent, as it deprives of caloric faster than the warmer bath, and does not possess stimulating properties enough to ensure reaction, like the colder bath. It is useful as a preparative to the *cold* bath.

The *warm* bath, from 92° to 100° F., increases the activity of the circulation, and consequently of the respiration. In water at 98°, the pulse is slightly accelerated; at 101°, it is fifteen or eighteen more than usual; at 104°, it rises to 108–112; the respiration ordinarily is not increased under 101°; above this, it slowly increases, and at a prolonged heat of 104°, it becomes anxious and panting. This bath increases the cutaneous circulation at the expense of the internal organs, by exciting the superficial capillaries, relaxing and rendering more permeable the external tissues, and calming any morbid sensibility on which internal congestion may depend. It is commonly resorted to as a means of cleanliness, and by many, even in midsummer; it quiets restlessness, calms the nervous system, and may prevent many commencing diseases from internal congestion; but it is, as will be seen, much abused.

The *hot* bath, above 100° F., is rarely employed as a hygienic agent in modern times. The luxurious Romans used very hot baths, at all times of the day, even after meals; the effects are mentioned by Juvenal in his first Satire (lines 142-4):

“Pœna tamen præsens, cùm tu deponis amictus
Turgidus, et crudum pavonem in balnea portas.
Hinc subitæ mortes, atque intestata senectus.”

They were in general use till the time of the Emperor Octavius Augustus, whose disease, after having been aggravated by them, was cured by the cold bath by his physician, Musa; the old doctrine was then proscribed, and the cold bath came into favour. After the first spasmodic action on entering the hot bath, the skin becomes red and swollen; the carotids pulsate forcibly, the heart feels oppressed by its rapid beatings, the respiration becomes frequent and painful—a copious sweat soon relieves of a portion of the excessive caloric, but all cutaneous evaporation is impossible—pulmonary and cerebral apoplexy may be the result of this artificial plethora. The immediate effects are stimulating; but the consecutive are highly debilitating, from the numerous and excessive losses, and the spontaneous sedation which follows every powerful excitation. The temperature of the body, thus raised, remains above the natural standard a certain time; thus explaining how certain nations expose themselves with impunity to great cold, after the hot and vapour bath: but it would be a sad mistake to suppose that any accumulation of heat, in the ordinary warm bath, can preclude the necessity of avoiding exposure to cold, on leaving it; as such immunity would only follow temperatures much higher than the usual ones.

The frequent use of the warm bath as a hygienic agent, is a most pernicious custom; though it excites for the moment, and gives a sensation of warmth and well-being, it leaves the body more or less exhausted, and the surface more susceptible to cold. Contrast this with the tonic qualities of the cold bath, and the superiority of the latter must be evident. The warm bath, then, relaxes and weakens, renders the skin morbidly sensible, and disposes it to the reception of contagious diseases; it disposes to apoplexy, by the artificial plethora it causes: even Hippocrates knew this, for he says (5th section, Aphorism 16):—“Calidum eo frequenter utentibus hæc affert noxas: carnis effœmationem, nervorum impotentiam, mentis torporem, sanguinis eruptiones, animi deliquia: hæc quibus mors.” From the too frequent excitement of the cutaneous surface, its arteries, veins, nerves, and lymphatics become enlarged; and from this excess of nutrition, diseases of the skin become more common and more obstinate.

Therapeutic effects of the Tepid, Warm and Hot Bath.—As heat is the essential necessary element in every vital phenomenon, it may well be conceived, that our artificial methods of applying caloric, this “radical stimulus of the vital sense,” must be of great utility in certain diseased conditions.

General action.—The tepid bath is a most soothing and calming application, when not heated so as to quicken the circulation; and may be used with advantage in most-inflammatory diseases. In the sensation of languor, heaviness, and feeling of fatigue, or what the French call “*courbature*,” the tepid bath, from 90° to 93° F., will frequently prevent the occurrence of fever; a refreshing perspiration breaks out while the pulse and respiration remain unaffected; it acts thus only when long continued, the first effect being emollient, the second diaphoretic. In hot climates, and during our summers, the tepid bath is more refreshing than the cold bath; it restrains inordinate perspiration, calms arterial and nervous excitement, without the sometimes unpleasant reaction of the cold bath: judiciously used, it will prevent many diseases arising from excessive heat.

The action of the tepid *affusion* is very different from that of the tepid *bath*. It would at first be supposed, that the *tepid* affusion might be employed, where the heat of the body is not high enough to render the *cold* affusion safe; or in those stages of fever, in which the heat does not exceed the temperature of health. But from the experience of Dr. Currie, the heat of the body is lowered more speedily by the tepid, than by the cold affusion; as the evaporation from the surface, on which cooling depends, is more copious; and the stimulus of reaction, by which heat is evolved, is absent in the tepid affusion. He accordingly employs it in fevers, where “the morbid actions are weakly associated, depending rather on the stimulus of preternatural heat, than on contagion, miasmata, the morbid contents of the stomach and bowels, or local inflammatory affection”—as in most of the feverish affections of children, in which this affusion diminishes the heat, the frequency of the pulse and respiration, and promotes sleep. He also employs it in feverish pulmonary affections, where the cold affusion would be dangerous; and in all cases, in which the cold affusion is recommended, where the fears or weakness of the patient, render the more powerful remedy questionable. The paroxysm of hectic fever is sometimes completely broken up, by the use of this affusion at the commencement of the hot stage.

The *warm* bath, according to Dr. Forbes, (*Cyclopaedia of Practical Medicine*, art. *Bathing*.) is useful in chronic, nervous, and spasmodic affections, unattended by inflammation and plethora; in painful non-inflammatory diseases, as neuralgia, calculi in the different canals; preceded by bleeding, in acute inflammation of the abdominal and pelvic mucous membranes; in cachexial, with irregular distribution of blood, and functional derangement.

The warm bath is of great utility in chronic cutaneous affections; according to Gibert, it is useful in all their stages. Alibert says, “*Les bains tièdes conviennent donc dans presque toutes les affections herpétiques. Non seulement ils concourent à la guérison, mais ils peuvent l’opérer dans*

quelques circonstances sans l'intermède d'aucun autre moyen curatif." Falconner says, the adult body absorbs 348 hourly, in this bath.

According to Dr. Currie the heat is diminished during the cold stage of intermittent fever, not only on the surface, but over the whole system; he has found it, under the tongue and in the axilla, as low as 92° F., and at the extremities some degrees lower. "At this time," says he, "the stomach feels cold, and universal tremor takes place. Warm, and even hot liquids, are highly grateful, and the warm-bath, heated to 100°, more grateful still. The drinking of warm liquids should be freely indulged in, and there is reason to believe that immersion in the warm bath, as prescribed by Galen, would be found as salutary as it is grateful." The pulse increases in force and frequency, and the heat begins to rise.

In mental derangement M. Esquirol advises laxatives one day, and the warm bath the next; and he found this method very successful: at the Salpêtrière he has used it even as long as eight hours at a time, and has never found it debilitating, when forty-eight hours were allowed to elapse between the applications; he used cold to the head at the same time. Mr. Davidson, in the Lancaster Asylum, used a bath at 85° in cases accompanied by vascular excitement.

In dyspepsia, accompanied by gastro-intestinal inflammation, in which irritating medicines would be injurious, the warm bath is very useful, by restoring the usually deranged functions of the skin; and in affections that seem to depend on an irregular or diminished action of any portion of the alimentary canal, in which the cutaneous function is almost always deranged. The relaxing effects of the warm bath are of well known utility in reducing strangulated hernia, dislocations, &c. A half an hour's immersion in a bath at 98° will cut short many a threatening rheumatism.

The proper time to take the warm bath is about an hour before dinner; it should never be taken after a hearty meal, even after an interval of some hours.

"By relieving pain and irritation, they are sedative; by restoring deranged functions, indirect tonics; by soothing the nervous system, antispasmodic; by modifying the extreme circulation, derivative; by action on the skin, diaphoretic; by these combined, alterative." The increased sensible perspiration diminishes the heat of the body during immersion; but as it continues for some time after leaving the bath, it becomes a powerful refrigerant.

The *hot* bath, from its reaction towards the skin, is very frequently employed in chronic cutaneous affections with atony of the integuments; when very hot and of short duration, it vividly excites the surface, causing "critical evacuations," which are, however, more safely and as surely produced by the "sudorific process." When exanthematous eruptions come out badly, the revulsion of the hot bath is often beneficial; but, as it must be employed uncomfortably hot, and of short duration lest the effect be too

debilitating, the sudorific process, or the cold affusion is better, and less dangerous when apoplexy or hemorrhage is to be feared. The same revulsion is of use in chronic irritation of muscles, nerves, articulations, and the abdominal viscera; but its dangers will prevent its becoming of general use, especially as cold water and the vapour bath are more efficacious; it has been employed in these cases at 109° F.

In cholera very little is to be hoped from the administration of medicine, from the almost complete cessation of the absorbent power of the internal surfaces. Mr. Rankin, of Calcutta, (*London Medical Gazette*, March, 1844,) uses long continued hot baths, during the stage of collapse, at 110° to 115° F. for an hour or more, until the "restored circulation indicates the removal of that obstruction on which I conceive collapse, in cholera, to depend. A treatment which would be dangerous in collapse from long previous illness, or extreme exhaustion, and produce fatal syncope, is not so in a disease where copious sweats and rice-water dejections are the only visible causes of weakness." The most remarkable effect was the restoration of the functions of the skin. It may be well to compare this treatment with that of the free drinking of cold water (as described in the *Medical Magazine*, Boston 1833, Vol. 1st); the difference in the treatment may be in a measure owing to the difference of climate in the two cases.

The utility of this bath for the cure of disease is greatly diminished by the now better understood effects of the cold and vapour baths; but as a preventive of disease, it may be more generally employed with advantage.

Partial Application of the Warm Bath.—The tepid hip-bath is an excellent calmant in certain pelvic affections, as diseases of the bladder, retention of urine, urethral inflammation, uterine diseases, fluor albus, chronic diarrhœa, and the various excitations of the genito-urinary system. The hot hip-bath is extremely useful in facilitating tardy or insufficient menstrual discharges by directly drawing the blood to the uterus; and in many spasmodic abdominal affections.

The hot pediluve and manuluve are often employed as revulsives, especially the former, in cerebral affections accompanied by determination of blood to the head, with vertigo, tinnitus aurium; in the paroxysms of asthma; in diseases of the eyes. The hot manuluve is too much neglected; it is of great and speedy efficacy in congestive headaches, and in irregular distributions of blood to the cerebral and thoracic organs. The repelling power of cold may be advantageously joined to the attractive power of the hot pediluve in cerebral congestion, by using cold applications to the head. The tepid pediluve, and tepid evaporating lotions, relieve greatly the pain of the gouty paroxysm.

The hot *douche*, as well as the cold, is of great utility. Strictly local diseases should, as a general rule, be treated by the hot *douche* instead of the hot bath, unless they are merely the manifestation of a constitutional affection, in which case the diathesis requires the general bath, and the

symptoms the douche. The douche has this great advantage, that it does not cause the general plethora which forms so great an objection to the hot bath; while it produces even more cutaneous excitation, as the heat may be borne much higher than when the whole body is exposed to the medium; and the shock is a powerful excitement in itself. It will be found of advantage in local paralysis, glandular enlargements, rheumatic and neuralgic pains, diseases of the joints, indolent tumours, and all local affections accompanied by atony.

M. Lehmann (*Journal des Connaissances Medico-Chirurgicales*, April, 1835) proposes the following treatment of croup, which is less startling than the cold affusions to the back employed by the Russians; he has met with the happiest results from this treatment, which, however, must be applied before the formation of the characteristic exudation. It consists in applying to the laryngeal region a sponge dipped in water almost boiling (but not hot enough to produce vesication) after pressing out some of the liquid; others are substituted every few minutes until a vivid redness is seen, usually accompanied by a general perspiration, which should be kept up by warm drinks; the dyspnœa, hoarseness, and croupal cough, disappear often, as if by magic. Though this should prove useful only in one case in a thousand, it merits a trial in this common and fatal disease.

As a local emollient warm water is of the greatest value. It penetrates and softens the tissues, rendering them more tense without inducing an afflux of blood; it relaxes the hardness of inflammation, diminishes pain, and promotes resolution. The superiority of warm water to poultices is every day becoming more manifest; no one insists more strongly on this point than Dr. Macartney. Once the excuse of impracticability was enough for the advocates of the cataplasm; but now hot water and steam may be employed in as simple a manner: in fact, the poultice is unfavourable to absorption, weighs more, costs more, smells worse, and is less easily obtained and applied than the warm water; we hope the time is not far distant when, like the University Hospital, (or the wards of the late Mr. Liston at least,) every hospital in our own country will banish from its walls this nuisance, alike offensive to the eye and nose.

Hot water also softens inflamed tissues, but, by causing an increased afflux of blood, it promotes suppuration; hence it should only be applied when suppuration is inevitable, in order to hasten and render less painful this process.

It is well known that heat is highly favourable to the healing of wounds; better proof of this cannot be given than the testimony of Baron Larrey, who found the wounds of the French army heal very readily under the burning sun of Egypt; while in the Russian campaign they healed very slowly, degenerating into obstinate ulcers, and many trifling ones proving fatal. Percy says that nothing can replace warm water as an application to recent tumours, which are usually covered by poultices, &c., as contrary to

nature by their weight as by their constituents: he says, "S'il fût possible dans un coup de feu ou tout autre blessure grave d'immerger la partie blessée dans l'eau, à une température convenable, pendant les dix à quinze premières jours de l'accident, il y aurait bien moins d'amputations, et l'on conserverait la vie à beaucoup plus de blessés." The ancients advise warm water in inflammation accompanied with fever, great itching, &c.—indeed very little can be added to what Hippocrates says in the 22d aphorism of the 5th section." *Calidum suppuratorium, non in omni ulcere, maximum signum ad securitatem: cutem emollit, attenuat, dolores sedat, rigores, convulsiones, tetanos mitigat: capitis verò gravitatem solvit: plurimum autem confert ossium fracturis: maximè vero denudatis: ex his quidem maximè qui in capite ulcera habent: et quæ a frigore moriuntur, aut ulcerantur: et herpetibus exedentibus: sedi, pudendo, utero, vesicæ. His calidum quidem amicum et decretorium, frigidum vero inimicum et occidens.*"

Water may produce rubefaction, vesication, or escharification, according to its temperature. Boiling water is used in surgery, often with great carelessness, and almost always without a precise knowledge of its powers. In Hufeland's Journal for 1843, M. Ruppius gives two cases of the successful employment of boiling water in callous fistulæ; the advantages are, that it loses its temperature quicker, and does not destroy all the tissues as does the red-hot iron. To ascertain the effects of water at different temperatures, we shall allude to the experiments of M. Trousseau on the "water hammer," (*marteau d'eau*) first used by M. Mayor, of Lausanne. A steel hammer with a handle of wood, is plunged into boiling water; when heated, this is applied to the skin—the pain is acute, and the skin is discoloured and sunken; there is a true eschar. With water at 176° F., an eschar is also formed, if the hammer be large; at 158° a phlyctena is formed, and when the epidermis is raised, a kind of false membrane is seen, which is a superficial eschar of the dermis; as albumen coagulates at 158°, when this degree of heat is applied to the capillaries of the dermis, the albumen is coagulated, and becomes a foreign body or an eschar. To determine if any of the elements of the dermis were disorganized below 158°, M. Trousseau commenced the application of the hammer at 122° and gradually ascended towards 158°. At 122° the hammer caused rubefaction, which sometimes lasted an hour if the hammer were kept in contact with the skin till it cooled. At 131° the pain was severe and the rubefaction permanent. If when the hammer was slightly cooled, another was applied at the same temperature, a bulla was formed, without disorganization of the dermis. At 140° the pain was hardly supportable; a single application produced vesication, repeated application caused a superficial eschar. At 150° by repeated application an eschar formed, for, though albumen does not coagulate at this heat, fibrin condenses and contracts at a much lower temperature. To recapitulate: the hammer of Mayor produces an eschar even as low as 158° F.; repeated application at 150°

produces superficial mortification of the dermis, and always causes vesication; between 130° and 150° there is vesication, usually without mortification.

The end proposed by the application of boiling water is to excite at all hazards the deadened sensibility, as in apoplexy and comatose affections, to produce vesication. We have seen that there is no necessity for employing water at 212° to produce vesication, as water at 150° , and even lower, will have this effect. It is only necessary to glance at the three degrees of burns from water to perceive the singular difference in the effects according to the temperature; the mortification of the whole dermis (the third degree) takes place where the boiling liquid falls on the naked skin; the mortification is superficial at the edges of the burn, and when the water has a little cooled, the second degree is where the water burns through the clothes, or at a lower temperature, and, by degrees we descend to simple rubefaction. How absurd, then, and dangerous to employ water at 212° , when water at 140° will answer as well? This practice is the more dangerous that the diseases in which it is chiefly used are those of advanced life, in which the burns (usually on the extremities) will often result in incurable infirmities. We think this subject merits further consideration; and that the "hammer of Mayor" may be used with the utmost advantage in those affections where the moxa is indicated.

Internal use of Warm Water.—Warm water taken into the stomach is calmant; in large quantity, emetic from mere distension; in continuous draughts, it acts mechanically as a laxative. At a higher temperature it excites the stomach, and by radiation the whole system; it is sudorific, from the movement of expansion towards the skin; it will frequently stop stomachal and intestinal spasm much quicker than the usual external applications.

The utility of enemata of warm water is too well known to require notice. In the *Medico-Chirurgical Transactions*, (1841,) Dr. J. Wilson mentions that colica pictonum is most successfully treated by the warm bath, and enemata of the water during immersion; if, as Andral supposes, the constipation depend not only on paralysis of the intestinal muscular coat, but on a diminution of the intestinal secretions, copious draughts of warm water would also seem indicated. In certain cases it is important to take advantage of the absorbent powers of the large intestine, as in cholera. In the *Medical Magazine* (Boston, 1833) diluent injections are highly spoken of as a means of restoring the fluidity of the blood, which is so remarkably altered in the latter stages of cholera: when absorption is totally suspended and the most powerful stimulants fail to excite the circulation, the author (Dr. O'Shaughnessy) would not hesitate to inject some ounces of warm water into the veins: he says "it should also be remembered that this mode of medication has, in many a desperate disease,

been practised with success, and that by some of the most cautious and experienced physicians in the world."

Mr. W. Lyon, (*London Medical Gazette*, 1844,) extols injections of warm water into the uterus as a means of facilitating labor. This has been applied in two cases in which the waters had long been discharged, and the uterine contractions had ceased; in one case the forceps, and in the other version would have been necessary: an injection of a pint of warm water brought on the pains, and speedy, safe delivery; though the details are not given with much precision, it may be a useful hint.

Every surgeon knows that there is a spasmodic stricture of the urethra, in which slight exposure, intemperance in eating or drinking, &c., bring on a complete retention of urine: this may endure for days, and the distended bladder and urethra may slough; the treatment as laid down in surgical works, is by bougies, venesection, warm-baths, opiates, and finally puncture of the bladder. The following is the simple but effectual treatment of M. Amussat. He passes a catheter down to the seat of the stricture; he then inserts into the catheter the pipe of an India-rubber bottle, filled with warm water; a slight pressure is exercised upon the bottle; the water, like a liquid catheter, accommodating itself exactly to the shape of the stricture, is more apt than any other means to resolve the spasm. A possible objection that it is dangerous to submit the distended bladder to any more pressure is not valid, as it is more dangerous to wait; the method of Amussat is certainly preferable to the dangerous operation of puncturing the bladder. Cold affusion to the genitals might aid, or even supersede this treatment.

Physiological Action of the Vapour Bath.—It may be well to consider here the comparative healing powers of air, water, and vapour; and the different temperatures at which each may be borne.

How high can the animal temperature be raised? To answer this let us allude to the experiments of Magendie, as detailed in the *Gazette Médicale de Paris* (for April 27, 1844). Let a rabbit or dog (whose normal temperature is 102° F.) be placed in air at 212°, and another in air at 140° the blood in the first will be heated quicker, and death will ensue sooner than in the last; but the temperature of both at death will be 111°, an increase of 9°; seeming to show that in animals there is a limit to the increase of temperature. A bird (whose normal temperature is 111°) will die when its temperature is raised to 120°, showing the same increase of 9°.—Is the same true as regards man? It is owing to this increase of temperature that the Russian may plunge with impunity into icy water on leaving his vapour bath, the excess of the body's caloric neutralizing for a time the coldness of the water.

In the animal subjected to these experiments, the arterial blood, at the moment of death, was as black as venous blood, and did not redden on exposure to the air; it had lost its coagulability, rendering it less proper

for circulation and more prone to leave the vessels; hence frequent epistaxis, injected conjunctiva, and subcutaneous extravasations resembling the ecchymoses of scurvy and purpura. How is this increase of temperature effected? by the skin, or by the lungs? To determine this Magendie placed a rabbit with his head alone in the stove; the temperature of the rectum in a given time was slightly elevated—he placed another with his body alone in the stove; and at the end of the same time the temperature of the rectum was much more elevated; he concluded that caloric penetrates into the system rather by the skin than by the lungs. In hot air, an animal loses weight by evaporation, not according to the degree of heat, but according to the time spent in it; in hot vapour, an animal does not lose weight, (and even sometimes gains,) either on account of the vapour deposited on the surface, or because the fluids evaporated have been replaced by the vapour absorbed.

From the observations of Fordyce, Blagden, and Dobson; and Berger and Delaroche (*Thèses de Paris*, 1806, No. 11), it appears that man can endure a dry heat of 230° F., and even higher, while the vapour bath cannot be easily endured above 120° F. Animals have been found to die at a much lower temperature in the vapour, than in the air bath; this may well be understood from the fact that in the former, already saturated with moisture, the pulmonary exhalation cannot take place; the cutaneous *evaporation* is, for the same reason, null. The abundance of the cutaneous *transpiration* is not sufficient to counterbalance a great amount of caloric; and watery vapour is a better conductor of heat than dry hot air. This difference should be borne in mind, in prescribing the vapour bath.

Magendie found that animals die quicker when the *body* only is plunged in a vapour bath, than when the *head* only is introduced; which would not, *a priori*, be supposed. The vapour bath is frequently given to the body only; sometimes a current of hot vapour is directed immediately to the lungs: in the latter case (or in fumigations) the temperature may be elevated much higher than in the former; the body can rarely support a vapour higher than 122° F., while fumigations may be borne easily at 140°; showing that the lungs are less sensitive to caloric than the skin. To show that the lungs do but little towards heating the body, in this bath, Magendie kept a rabbit for 20 minutes in water at 50° F., its temperature then being 70° F.: it was placed in a temperature of 194°; in 15 minutes more it was taken out expiring, the temperature in the rectum being only 77°, instead of 111°: the heat was mostly taken up in evaporating the water filling the animal's hair, so that the system could be affected only by the lungs; with what effect has been seen.

On leaving both the vapour and hot air bath there is thirst; that from the vapour bath soon disappears without drinking, while that from the hot air bath yields only to drinks. In the former the blood is simply heated, in the latter it is also deprived of a certain amount of its watery part—in

a warm summer's day a piece of metal held in the mouth will diminish thirst by diminishing the local heat, if copious perspiration have not taken place. When an animal dies in the vapour bath, the lungs and large vessels contain but little blood; as in the hot-air bath, most of it is attracted towards the periphery, where it is extravasated.

According to Dr. Forbes, as a general bath water can hardly be borne at 120° F., Rostan bore it with difficulty for half an hour at 115°; the heat of the Russian or Egyptian vapour bath is much above this. From the experiments of Dr. Edwards, frogs will live but two minutes in water at 104° F., though the head was not immersed; while they lived in vapour at this temperature, breathing it more than five hours. The case is somewhat different if the vapour be not breathed, as a much higher temperature may be borne, since the cooling process of pulmonary evaporation is not impeded. Dr. Forbes gives the following table of the equivalent heating powers of vapour and water:

	Water.	Vapour not breathed.	Vapour breathed.
Tepid,	85°-92°	96°-106°	90°-100°
Warm,	92°-98°	106°-120°	100°-110°
Hot,	98°-106°	120°-160°	110°-130°

At corresponding temperatures the vapour bath causes a greater cutaneous transudation than the warm bath; and this is rendered still greater by the disproportionate degrees of heat, as indicated by the thermometer, which are to be considered as equivalent (see table). The vapour bath causes a greater accumulation of the fluids in the integuments from the greater rarity of the medium; hence it is the most powerful derivative. The thermometer should be more carefully consulted in using the vapour bath, as the gradual increase of temperature is not so easily perceived as in the water bath.

The vapour bath is not now used as a hygienic agent, except by the Turks and Eastern nations. In many institutions, as the Hospital of St. Louis in Paris, the public vapour bath is still extensively used as a therapeutic agent: it is arranged as an amphitheatre, the heat increasing with the elevation. But the solitary vapour bath in which the whole body, or all but the head, may be included, is most frequently employed in medicine.

When the body is plunged into a vapour bath of 80° to 95° F. there is felt an agreeable sensation of heat, accompanied by slight transpiration; the skin becomes covered by drops, not of sweat, but of the condensed vapour, which roll down the body as they do the walls of the apartment; the pulse is slightly accelerated, but the respiration is generally unaffected. After this bath the functional activity of all the organs is increased. At a temperature from 95° to 110° the skin becomes hot and reddened, the cellular tissue is swelled, the limbs increased in circumference, the muscular force is greatly diminished; the pulse quick and strong; the cutaneous vessels, especially of the head, are swollen and pulsate forcibly; the respiration is difficult; the perspiration abundant: in fine, we have the phenomena of the

hot bath. There is, however, less susceptibility to cold after the vapour than after the warm bath. When the head is not included in the bath, these effects will be moderated, and the temperature may be much increased without an increased excitation of the system. The vapour bath is more diaphoretic and less stimulating than the warm bath; at a low temperature it is an excellent calmant.

In Turkey, where every village large enough to have its mosque has also its public vapour bath, the effects of its abuse are very striking. The servants of these establishments, sweating continually and drinking copiously in a state of comparative rest, almost always become dropsical; their flesh, as well as that of the most inveterate bathers, becomes pale and flaccid.

Therapeutic general Vapour Bath.—Like other therapeutic agents, the vapour bath has had its epochs of favour and discredit; it is only of late years that, thanks to Dr. Macartney and others, it has been considered as anything more than a last resource. Some have ascribed to it derivative powers alone; others maintain that it is only emollient, relaxing, or stimulating. From its physiological effects we may infer that its action in disease depends on its temperature and duration; on the extent of contact and force of projection for the local bath. It may produce a tonic, an emollient, a revulsive, an exciting, a diaphoretic, a sedative, and even a caustic effect, according to the physician's wish.

In acute inflammations, as a general rule, the vapour bath is contraindicated, as it would increase the heat and febrile excitement; yet there are certain acute diseases, especially those resulting from or accompanied by suppressed transpiration, in which its sudorific properties may be eminently useful.

In intermittent fevers it has long been used with success. M. Rapou (*Annales de la Méthode Fumigatoire*, Paris, 1827) has often employed it in children and delicate adults in whom the powers of reaction are feeble; it should be administered at the beginning of the paroxysm, or just before it is expected; by it the paroxysm is shortened, and sometimes prevented: it should be continued till the commencement of the hot stage, and the sweating stage should be treated by warm drinks. He gives several instances in which various intermittent diseases were thus cured. Indeed the popular opinion is just, that these fevers may often be cut short by an abundant transpiration; the French soldiers get rid of this fever by hot alcoholic drinks, and even by a mixture of gunpowder in brandy, which causes a profuse perspiration and consequent relief. Vapour will have the same effect with less danger and inconvenience.

In what the French call "courbature," or a general feeling of uneasiness, with dull pains, after any unusual fatigue; in what we call a "chill," the precedent of the various affections resulting from cold and moisture; in sudden suppression of the perspiration, so fruitful a cause of disease;

in these, the vapour-bath, at a temperature of 96° to 102° F., will, in most cases, if instantly applied, prevent disease, by re-establishing the cutaneous functions; it may be usefully employed at any time before the actual existence of inflammation. The “catarrhal state” is not a state of inflammation, and is injuriously modified by antiphlogistics; still, it often presents alarming symptoms, great fever, headache, &c.; these apparently dangerous symptoms soon disappear on a natural or provoked re-establishment of the cutaneous functions. In pulmonary affections, Marshall Hall (*London Lancet*, 1844) is a strong advocate of a warm moist air; he advises that the chamber be warmed day and night by large basins filled with water at 180° F.; to this he thinks he owes the speedy recovery of a very grave case of pleuro-pneumonia; he has witnessed similar good results from this hygrometrical state of the air in bronchitis and whooping-cough. (See also his *Observations in Medicine*, chap. 10.)

For the same reason that common catarrh is cured by abstaining from liquids, and thus diminishing the secretions of the mucous membrane, and by derivation to the surface by sweating, an intestinal catarrh will be modified by the same treatment—whatever be the explanation, it is certain that an aqueous diarrhœa may often be cured by sweating. (See *Hooper's Medical Dictionary*.)

Dr. Clark, of India (*London Medical Gazette*, April, 1844), treats cholera by the vapour-bath, to cause reaction. This is, by many, ranked as a disease of the digestive organs, but he thinks that the rice-water stools, the scanty urine, and the collapse, are more likely the result of the quantity and quality of the blood sent to the different organs; he considers it a disease of the circulating system—it may arise, as remarks Mr. Annesley, from the blood not receiving sufficient oxygen from the air.

According to Corbel (*Essai sur l'emploi Hygiénique et Medical des bains. Thèses de Paris*, No. 469, 1837) the vapour-bath was once in great vogue against sterility. Sanchez extols it not only in sterility, but during pregnancy, and after delivery; he adds, that by it the Russian women spare themselves many chronic diseases connected with the uterine functions. Rapou and Chaussier (at the Maternité) confirm this opinion and practice of Sanchez.

It is chiefly in chronic affections of the general system that the vapour-bath is beneficial, indeed, in the affections before mentioned as benefitted by the “sudorific process” by envelopment. This bath is less uncomfortable, and not less efficacious, than the enveloping process. The artificial plethora caused by it will be found of advantage in chlorosis, anæmia and scrofula, aided by friction of the surface.

In cutaneous diseases, vapour is universally allowed to be of the greatest efficacy; it is even of advantage in acute affections (as a revulsive), depending on, or connected with, pulmonary or gastro-intestinal inflammations; in chronic diseases, especially the squamous, it causes the crusts

and scales to fall, and afterwards stimulates the skin, and restores its normal vitality. In dropsy and œdema it is of use in stimulating the cutaneous exhalants; and in the anasarca following some eruptive fevers. M. Rapou advises it in chronic pneumonia, hepatitis, metritis and gastritis, aided by friction; in neuroses, metallic colics, paralysis and nervous tremblings, it is the chief treatment at the St. Louis Hospital of Paris.

Its most frequent employment is in chronic affections of the articulations; in rheumatism, neuralgia, muscular contractions, false anchyloses, paralysis, gout; but in most of these the *partial* vapour-bath is preferable. In *acute* general rheumatism, muscular or articular, it is generally contraindicated from the violent fever; and in this stage, copious sweats without relief are quite common. But in *chronic* rheumatism, it has long been known on the Continent as a most powerful remedy; it seems to penetrate the skin more readily than water, and more quickly re-establishes its functions; but even in chronic cases, when the cutaneous irritation brings the disease to an acute stage, instead of acting simply as a derivative, the bath must often be given up. The cases most happily modified by it are those of long standing, of great mobility, with dry skin and increased pain from cold and moisture; here it may cure by a critical perspiration, or a substitutive irritation—it seems also better adapted to chronic *muscular* than to chronic *articular* rheumatism, when aided by frictions, and residence in a warm climate. The temperature may be from 95° to 105° F. for twenty to thirty minutes; an abundant perspiration comes on during and after the bath; the pulse, at first accelerated, soon becomes soft; the skin becomes moist and supple; and there is no fatigue or extreme sensibility to cold as after the *warm* bath. At first, it should be taken every other day; then, every day; and soon twice a-day.

The contra-indications and cautions are the same as for the warm-bath, when the vapour is breathed; when it is not breathed, it is well to use it cautiously in plethoric persons, during pregnancy, and in those disposed to thoracic or abdominal hemorrhage.

Partial Vapour bath.—This bath is more generally applicable in surgery than the general bath; it may be used as a half-bath, foot or hand bath, douche, or local fomentation. According to its temperature, it may produce every stage of action, from the most calming to veritable escharification. The temperature must depend on the sensibility of the part. Dr. Wilson (*A practical Treatise on the Curative Effects of Simple and Medicated Vapour, applied locally*, by James Wilson, M. D., London 1837) makes three classes of cases; in the first the sensibility is exalted, and the vapour should be employed at a low temperature, as in erysipelas, acute gout, and irritable ulcer;—in the second the sensibility is diminished, and the temperature should be increased, as in indolent ulcer;—in the third the sensibility is diminished externally from its increase internally, as in white swelling, chronic synovial inflammation, and chronic articular rheu-

matisms ;—in these the temperature should be high. The temperature should be gradually increased as the tissues become accustomed to the stimulus ; as the “habit of inflammation” renders a tissue less apt to be influenced by therapeutic agents, the vapour must be at a higher temperature, of longer duration, and more frequently repeated in chronic than in acute affections.

In erysipelas accompanied by great pain and redness, steam at a moderate temperature will diminish the sensibility and restore the natural secretions of the skin ; in the chronic erysipelas, which is so apt to fix itself about the large joints, vapour at a higher temperature may be used ; but never the steam of *boiling* water, unless moderated during its progress to the part.

Acute gout, as far as the local affection is concerned, is most advantageously modified by the tepid or vapour bath, especially by the latter, which is more speedy in its action.

In speaking of particular diseases we might allude to the writings of Dr. Macartney ; but as these are well known we may adduce the testimony of Dr. Wilson, his pupil, who has made the treatment of diseases by vapour his especial study.

When rheumatism is confined to a single joint, the general vapour-bath is inferior to the partial bath, for obvious reasons ; indeed the former may be dangerous in certain cases ; M. Gibert says (*Maladies de la peau*, p. 44), “I have seen a hemiplegia, followed by death in a few weeks, manifest itself where a vapour bath has been administered without precaution to a slightly plethoric individual who had slight rheumatic pains.” Dr. Wilson isolates the diseased joint by impermeable coverings, and exposes it to the vapour an hour at a time, for a week or more, occasionally rubbing it with a strong camphorated liniment, and covering it warmly with flannel ; he has thus speedily relieved cases which had obstinately resisted the stimulating liniments and plasters in common use. The douche of hot vapour is equally efficacious in muscular rheumatic pains.

In chronic synovial inflammation, so well described by Brodie, the local vapour bath may advantageously replace the blisters, issues, setons, moxas, and other counter-irritants commonly employed. Where the disease has not gone on to ulceration and suppuration, leeches should first be applied to subdue any inflammation ; the joint should then be exposed to vapour as hot as it can be borne for two or three hours : while excited by the steam the joint should be rubbed with a camphorated liniment ; the steaming and rubbing should be repeated daily ; in the intervals the limb is to be kept in a state of perfect rest.

The steam bath is also of signal efficacy in chronic inflammation of ligaments ; of the sub-synovial cellular tissue ; of the lining of the muscular and tendinous sheaths around the joints ; in simple synovial irritation ; in inflammation of the bursæ mucosæ with effusion.

In white swelling, properly so called, (for this has often been confounded with chronic synovial inflammation,) the disease commences in the bone, and gradually involves the soft parts. As we understand it, white swelling consists in the deposit of tuberculous matter in the bone, and, therefore, not much benefit can be expected from treatment in the *adult*; but in the *young*, in whom the terrible law of Louis has some exceptions, we may hope to arrest the affection by proper treatment, and to remove, perhaps entirely, any existing disease by the use of iodine and its combinations.

Chronic muscular contractions may often be made to disappear by the jet of steam, aided by simple and medicated frictions; as torticollis, and certain curvatures of the spine.

It has been much extolled in paralysis not depending on lesion of the nervous centres; in paraplegia, where the immediate cause has been removed, and in local paralyses from metallic emanations; in tic douloureux, and the various forms of neuralgia.

In the exanthemata, where the fever accompanying the eruption is too violent, the vapour should be only emollient, but long continued; when gastric, or pulmonary irritation prevents the due appearance of the eruption, the vapour should be slightly stimulating; when there is retrocession of the eruption, the vapour should be of a high temperature.

In scaly and crusty eruptions vapour is more soothing and emollient than warm water, and more grateful to the irritated surfaces. Where the sensibility is diminished, as in the obstinate affections of the scalp, it is a powerful aid to the usual topical stimulants.

Vapour is of great utility in inflammation of mucous membranes; in otitis, ophthalmia, inflammation of the mouth and fauces, bronchitis, and inflammation of the genito-urinary system; in rheumatic laryngitis, and in aphonia. M. Ribes has shown that hardened wax in the ear is a frequent cause of ulceration or other disorder of the tympanum; this may be prevented by the vapour injection.

In painful wounds vapour is the best possible calmant. We will mention a case of Dr. Macartney. He had received a severe lacerated wound in the palm of the hand from the teeth of a dog, a part of the palmar fascia being withdrawn; the pain was most intense; he plunged his hand as soon as possible into aqueous vapour and kept it there for several consecutive hours; within a half an hour the pain was entirely removed; says the professor "the wound healed in a very short time, *without any of the phenomena of inflammation.*" In contrast with his own case, he relates the following: "A gentleman of my acquaintance received a slight punctured wound in the hand from the spur of a game-cock. It was treated by poultices in the first place: in fact it was treated as those wounds usually are; to wit, there were leeches, medicine, three surgeons, plenty of consultations, and—a *year's confinement cured him.*"

In the words of Dr. Wilson "Should it be imagined by some that the

recital of the therapeutical effects of steam now given is exaggerated, I can only refer them to the agent itself; let it be tried. For my part, I cherish the hope that a day will come when this simple, harmless, and manageable application will altogether supersede a long list of complicated and uncertain remedies that now confuse both the patient and the practitioner.''

Boston, Aug., 1848.

ART. VI.—*New Operation for the Radical Cure of Varicocele.* By S. D. GROSS, M. D., Professor of Surgery in the Medical Department of the University of Louisville.

THE following operation for the radical cure of varicocele I have performed eight times within the last few years. The patients were all young men of good constitution, and they all recovered without a single bad symptom. The cure, so far as I have been able to learn, promises to be permanent in every instance.

During the operation the patient may lie down, sit in a chair, or stand up, as may be most convenient. The scrotum, previously divested of hair, is rendered tense by grasping it behind with the left hand. A vertical incision, scarcely an inch in length, is made over the anterior part of the tumour, down to the enlarged veins, which are next carefully isolated from the accompanying duct, artery, and nerves, by a few touches with the point of the scalpel. This constitutes the first step of the operation. The second consists in passing a short, thick sewing-needle—a No. 1 of the mil-liner, underneath two or three of the larger trunks, and winding around it a stout thread, either elliptically, or in the form of the figure 8. The ligature is drawn with great firmness, so as to indent the coats of the vessels, and put an immediate stop to the circulation. The operation is finished by closing the wound carefully with one or two twisted sutures, or a few strips of court-plaster. The patient is now put to bed, the scrotum is supported with a silk handkerchief, and light diet is enjoined. At the end of twenty-four, or, at most, thirty-six hours, the blood in the constricted veins is sufficiently coagulated to justify their division, and the removal of the needle. This is readily effected by insinuating a narrow, sharp-pointed bistoury underneath the vessels, with its back towards the needle.

Should symptoms of inflammation arise after the operation; or, in other words, should the parts become red, tender, and swollen, recourse must be had to antiphlogistics, and to the application of cold water, or solutions of acetate of lead and opium. The patient may usually sit up in five or six days, and in a few more he may be permitted to walk about.

The little wound soon cicatrizes; and the induration, caused by the coagulation of the blood between the testis and the seat of the constriction, gradually disappears by absorption. The period required for this rarely exceeds a month.

The advantages of the above operation are, first, its perfect simplicity and the facility with which it may be executed; secondly, its freedom from pain and hemorrhage; thirdly, the certainty with which we may avoid injury to the spermatic artery, duct, and nerves; fourthly, the little inconvenience or suffering which the patient experiences after it has been performed; and fifthly, the rapidity of the cure. These considerations will, I think, be found sufficient to recommend this method to the favourable notice of practitioners. Most of the operations described in the books are complicated, severe, and dangerous.

It occasionally happens in this affection that the scrotum is very flabby and pendulous. When this is the case the cure will hardly be complete unless the surgeon retrenches the redundant structures. I have been obliged to resort to this expedient only once in my operations. A portion of scrotum, nearly of the size of a large hand, was excised with the scalpel, and the wound closed by the continued suture, which I consider far preferable, under such circumstances, to the interrupted or twisted.

LOUISVILLE, KY., July, 1848.

ART. VII.—*Contributions to Pathology: being a report of fatal cases taken from the records of the U. S. Naval Hospital, New York.* By W. S. W. RUSCHENBERGER, M. D., Surgeon U. S. Navy; Fleet Surgeon for the U. S. Squadron on the East India Station.

ON the first of April, 1847, the U. S. Ship Vincennes, after a cruise in the East Indian and Chinese seas, arrived in the port of New York. The crew had suffered severely from tropical dysentery, and those men who were attending to duty were considerably enfeebled, either by disease or extra labour imposed on them in consequence of the number sick and therefore unable to work. Of a crew of about 180, thirty-five were admitted into hospital, suffering from chronic disease; of this number, twenty-two were affected with dysentery. Of the latter, nineteen were cured, one was discharged very much improved, and two died.

CASE I. *Dysentery complicated with Pneumonia.*—Daniel Green, gunner's mate, ætat. 55, received from the U. S. Ship Vincennes April 2, was admitted for treatment on board, January 7th, 1847; had been complaining two months previously: while on board, he was treated with mercurials, opiates and topical depletion.

Emaciated; sallow, dry, harsh, shriveled skin; tongue dry, smooth, striped longitudinally, florid; pulse regular, small, feeble, 76. Milk diet. *P. M. R.*—*Ipecac. pulv. gr. ij; opii tinct. gtt. xxv; aq. font. ℥ij. M. ft. haust. h. s. s.*

April 3d. Frequent small stools during the night; feels better this morning. *R.*—*Cupri sulph. gr. ss; gentianæ ext. gr. iss. M. ft. pil. cap. q. q. 4ta horâ. P. M.* Frequent stools during the day. Repeat "*Ipecac. draught*" of last evening.

4th. Thinks he is better; frequent small stools, with tenesmus during the night. Suspend *sulph. cupri. R.*—*Creta ppt. ℥ss; krameria ext. ℥ij; acaciæ pulv. ℥ss; aq. font. q. s. ft. ℥vj. M. cap. ℥ss q. q. 3tia horâ. P. M.* No change; medicine to be exhibited every second hour. Repeat "*Ipecac. draught*" at bed time.

5th. Nausea; has vomited; stools less frequent; persist. *P. M. Ipecac. draught h. s. s.*

6th. Slowly improving; *inf. lini ad lib. P. M. Persist. R.*—*Pulv. piper. angustifol. grs. v q. q. 2da horâ. R.*—*Pulv. ipecac. gr. ij; tinct. opii ℥xx; aq. camphoræ, aq. font., aa ℥j. M. ft. haust. h. s. s.*

7th. Constant desire to stool; stools feculent, yellow, without blood. *P. M.* Thinks he is much worse; complains of tormina; asks to have his will made. Persist; repeat draught of last night.

8th. No change. Chicken broth in lieu of mush and milk. Suspend *piper angustifol. P. M.* Feels better; complains of cough. *R.*—*Sol. sulph. morphiæ ℥j; h. s. s.*

9th. Complains of hard dry cough, which keeps him awake and exhausts his strength. Stools much less frequent; evacuations fecal, of a light yellow colour. Suspend cretaceous mixture of the 4th. *R.*—*Sol. sulph. morphiæ ℥vj; mucil. lini q. s. ft. ℥vj. M. cap. ℥ss q. q. 2da horâ. P. M.* Three stools in the past twelve hours; cough less troublesome; feels much better.

10th. Feels very much better; very little cough. Persist. *P. M.* Three fecal evacuations in twelve hours. *Ipecac. draught h. s. s.*

11th. During last evening, was very irritable; delirious through the early part of the night; walked about the ward until between two and three o'clock A. M., when he laid down. Expired tranquilly about four o'clock A. M.

Autopsy nine hours after death. Thermometer 68° F.—Body very much emaciated; œdema of the feet and legs; abdomen inelastic and sunken.

Head not examined. *Thorax.* Lungs did not collapse; extensive but not very firm pleuritic adhesions on both sides; pleura adherent to pericardium. In the apex, and also in the upper portion of the middle of left lung, there were cavities, each containing about an ounce of dark, olive-coloured, offensive matter. The parietes of these cavities were covered by an exudation of lymph. Lung distended, and filled with frothy serum, and studded with small blackish tubercles. The right lung more crepitant than the left; the upper lobe studded throughout with tubercles, and distended with serum: texture of both lungs softer than usual.

Heart. Size normal; weight $9\frac{1}{4}$ ounces, and its substance preternaturally soft. The right auricle very much attenuated, very transparent, and seemed to be formed almost entirely of serous membrane. The pericardial sac contained about two ounces of serum of the colour of olive oil, which was found to be highly alkaline, and quickly coagulable by heat, and by

the addition of nitric acid. Parietes of right ventricle $\frac{2}{10}$ ths of an inch thick; of the left, $\frac{7}{10}$ ths of an inch, and the septum ventriculorum $\frac{9}{10}$ ths of an inch in thickness. The mitral valves were thickened and studded with cartilaginous deposits; and ossific deposits were found at the origin of the aortic valves. The internal diameter of the pulmonary artery was $\frac{5}{10}$ ths of an inch; of the aorta, at the origin of the innominate, $\frac{1}{2}$ $\frac{9}{10}$ ths of an inch, and, immediately beyond the origin of that vessel, $\frac{3}{10}$ ths of an inch: the internal diameter of the innominate at its base was $\frac{7}{10}$ ths of an inch.

Abdomen. Omentum free from fat; peritoneum thickened, and readily separable from its attachments. *Liver* was of normal size, but its substance soft and friable; the upper surface was marked by numerous, white, stellate spots, and, near the left extremity, covered with white, thickened granular membrane. The gall-bladder which adhered closely to the colon, contained four ounces of thin lemon-coloured bile. The *spleen* was small and hard. The *stomach* was normal in size and external appearance; the mucous coat firm. Near the pylorus the coats were generally thickened, and close to the pyloric orifice, which was considerably contracted, was a heart-shaped ulcer, about a quarter of an inch in diameter. The coats of the duodenum were thickened, and the internal diameter of the intestine considerably diminished, but the glands of Brunner were not discernible. The small intestines were not remarkable; but the mesenteric vessels were injected, turgid. The *colon* was contracted in its diameter; its parietes very much thickened, the mucous coat of a dark slate colour, and its whole surface thickly set with large ulcers. The mucous coat of the rectum was injected, but not ulcerated. The left kidney weighed $6\frac{1}{4}$, and the right $5\frac{3}{4}$ ounces avoirdupois. The left kidney was peculiar in shape, the anterior face being flattened, and the upper extremity of it truncate. The bladder was distended; its coats were thickened.

Remarks.—The above case is from notes by Assistant Surgeon Joseph Hopkinson.

As far as we are informed, this man had been suffering more than three months from disease of the intestines exclusively, that is, if we are to rely upon symptoms. But on the sixth day after his admission into the hospital, and four days before death, he complained of cough for the first time; and this symptom of abnormal condition of some portion of the respiratory apparatus, is reduced, if not subdued, in the course of forty-eight hours, which might lead the practitioner to conclude, there was no serious affection in the lungs; the whole of the symptoms pointed to the abdomen as the site of disease, and in its viscera alone we were to look for the causes of the symptoms noted. But instead of finding evidence of serious abdominal disease, resulting from more than one attack of dysentery within the tropics, we find cavities and tubercles in the lungs, which were in the second stage of pneumonia. The condition of the lungs, as revealed after death, seems to be incompatible with a pulse of only seventy-six beats in the minute. This observation was carefully made. It is not presumable that the pathological condition of the lungs was the result of abnormal action of a brief period, of a few days, commencing when cough was first noted. It is probable there were symptoms indicative of disease in the lungs, but no

complaint being made by the patient which drew attention to them, and the symptoms of abdominal affection being so prominent in the case and prevalent in the ship, the former were not noticed, or noted.

CASE II.—*Dysentery.*—*April 2d, 1847, P. M.* Joseph Smith, seaman, ætat. 35, received from the U. S. ship Vincennes, “affected with chronic dysentery.” He was admitted for treatment on board that vessel, February 27th; had suffered two previous attacks of dysentery; had been convalescent two weeks, when, in consequence of an error in diet, he suffered a relapse two days before his arrival at New York. The treatment on board consisted of topical bleeding by leeches, opiates and mercurials.

Says he has been suffering during four months, but did not go on the sick-list till about four or five weeks ago. Skin dry and harsh; tongue furred in patches, tip and edges red and dry; pulse full, very soft, 120. The whole abdomen very tender, sensible to the slightest touch. Constantly on the close-stool, tenesmus; stools muco-sanguineous; no appetite. Has pain occasionally shooting through left side, but not constant. On the left side of the chest, throughout the lateral, superior and inferior mammary regions, there is dullness on percussion; over the left superior and inferior mammary, and left lateral regions, a fine crepitus is heard. He has very little cough, and no expectoration; says he has vomited several times. Fever diet, gum-water for drink. R.—Acid. nitric. gtt. xx; tinct. opii gtt. xl; aq. camphoræ q. s. ft. ℥iv. M. cap. ℥ss q. q. 2da horâ.

April 3d. Suspend mixture of aq. camph. R.—Fol. piper angustifol. (matico) ℥j; aq. font. q. s. displ. Oj. Cap. ℥ij q. q. 2da horâ. Arrow-root, pro re natâ. *P. M.* Stools less frequent; less tenesmus; tongue heavily coated in the centre with scarlet tip and edges, which are dry. Arrow-root and water were rejected this morning; ate a few spoonfuls of clam soup, which the stomach retained. Continue matico. R.—Pulv. ipecac. gr. j; tinct. opii gtt. xxv; aq. camphoræ ℥j. M. ft. haust. h. s. s.

4th. Slept well during the early part of the night; since three o'clock, A. M., stools frequent, discharges small; several paroxysms of gagging; vomited once. Continue inf. matico. Apply to abdomen cotton wool, and cover with oiled silk. R.—Pulv. piper angustifol. ℥ss q. q. 4ta horâ. *P. M.* Four stools since morning visit; ate some clam-soup, which seems to suit his stomach. A suppository of opium (four grains) was administered at two o'clock P. M., and retained an hour.

5th. Thinks he was up every five minutes during the night; discharges very small, less bloody, and of a darker colour; constant pain in loins and over the whole abdomen. Suspend inf. matico. R.—Tinct. opii ℥j; mucil. amyli ℥ij. M. ft. enema—rep. p. r. n. *P. M.* Ipecac. draught h. s. s.

6th. Stools less frequent; discharges dark coloured and frothy; no tormina, very little tenesmus; tongue cleaner; pulse full, soft, 112; countenance brighter. *P. M.* Improves. R.—Pulv. ipecac. grs. ij; tinct. opii gtt. xl; aq. camphoræ, aq. font. aa ℥j; M. h. s. s.

7th. Frequently up during the night; discharges of a dark brown colour, offensive, liquid, with a dark coffee-grounds-like deposit. The aggregate average daily discharge from the bowels does not exceed a pint. Tongue has a skinned look, but is neither so dry nor red as it was. Persist. *P. M.* Ipecac. draught h. s. s.

8th. As on yesterday. R.—Plumb. acetat. gr. xij; ipecac. pulv., opii pulv., aa grs. vj; M. ft. pil. xij; Cap. j q. q. 2da horâ. Suspend pulv.

matico (of 4th). He thinks it increases the tormina and tenesmus. Resume inf. matico (of 3d). *P. M.* More comfortable; ipecac. draught h. s. s.

9th. Prostrated; eyes heavy, sleeps with them partly closed; frequent watery stools; occasional discharges of liquid red blood. Has eaten nothing except gum water for two days. Essence of beef p. r. n. *R.*—Tinct. opii gtt. xl; mucil. amyli ʒij. *M. ft. enema. Noon.* Hiccough; inattentive; roused with difficulty. 3 o'clock *P. M.* Repeat enema. *P. M.* Six discharges since last note.

10th. Suspend inf. matico. *R.*—Plumb. acetat. grs. xij; opii pulv. grs. vj. *M. ft. pil. vj*; cap. j q. q. 3tia horâ. *P. M.* Had six evacuations in the last twelve hours, very thin, resembling the *lotura carneæ*; tongue bright cherry red, dry and smooth; tenesmus. *R.*—Pulv. opii gr. vj; axungia ʒij. *M. ft. suppositorum.*

11th. Evacuating with coffee-grounds-like deposit every half hour. Hope's mixture q. q. horâ. *R.*—Tinct. opii gtt. xl; mucil. amyli ʒij; *M. ft. enema*; rep. q. q. horâ. Flour-ball diet. *P. M.* Suspend pills of 10th. *R.*—Ol. ricini ʒj; tinct. opii gutt. xx; vitel. ovi j; sacch. alb. ʒj; aq. camph. q. s. *ft. ʒiv. M. cap. ʒij q. q. 6ta horâ.*

12th. No change; persist. Cold custard. *P. M.* Pulse 124; skin comfortable. *R.*—Ol. valerian. gutt. iv; gum tragacanth. q. s. *M. ft. pil. iv*; cap. i q. q. h. Alum whey ʒij q. q. 2da horâ. Emp. lytta 6 in. × 6 to abdomen.

13th. Blister removed before vesication was complete; took two of the valerian pills; tongue moist, cleaner; pulse 112; feels better. *P. M.* Feels better; had slight nausea this afternoon; stools more consistent; retains flour-ball diet. One valerian pill every hour until three are taken. *R.*—Sol. morphiae sulph. ʒj h. s. s.

14th. Vomits yellow bile occasionally; passes stools in bed; they are fecal, consistent, bloody; hiccough. *R.*—Argent. nitrat. gr. ¼ in pil. q. q. 3tia horâ. Suspend valerian pills. *R.*—Ol. valerian. gutt. ij; sacch. alb. grs. x; aq. camph. ʒj. *M. cap. ʒij p. r. n. P. M.* Vomiting continues; blister has vesicated; rennet whey in place of alum whey, lime-water and milk occasionally. Morphiae acetat. gr. j, to denuded cuts.

15th. Sleepless night; tongue dry, shriveled; stools brown, liquid; vomiting and hiccough continue. Inf. salviae for drink; continue pills of nit. argent. *P. M.* No change: *R.*—Tinct. valerian., sol. morphiae sulph., aa ʒj; aq. camph. ʒj; sacch. alb. q. s. *M. ft. haust. h. s. s.*

16th. Slept pretty well last night. Sinking. Brandy and water; cretaceous mixture. Died at half past six o'clock *P. M.*

Autopsy seventeen hours after death. Thermometer 68° F.—Body rigid, emaciated. *Lungs and heart* healthy; pericardium contained about two drachms of serum. *Abdomen.* Omentum very much injected and adherent in the left iliac fossa, and to the colon throughout its whole course. *Liver* pale and softened; *gall bladder* nearly empty. *Spleen* adherent to left kidney. *Stomach*, normal in appearance and size; mucous coat firm; near pyloric end was a pediculated, dark-coloured tumour of cartilaginous consistence, measuring a quarter of an inch long by one-eighth of an inch in diameter. Pyloric orifice and duodenum thickened; glands of Brunner well marked and healthy; small intestines distended to twice their normal diameter. *Colon* covered by the thickened omentum throughout its extent, seemed as if rolled up in it: on cutting through this envelope, the great intestine was found to be a mass of softened, dark, slate-

coloured tissue and pus, at several points completely perforated by ulceration; the gut readily tore transversely almost by its own weight. Yellow fecal matter was found smeared over the inferior part of the cavity of the peritoneum: the sigmoid flexure was bound down in the iliac fossa by thickened omentum, as if an effort had been made to prevent extravasation at that point.

Remarks.—The above case is from notes by Assistant Surgeon Joseph Hopkinson. It might be regarded as illustrative of the termination of dysentery, after several attacks in tropical climates, where a first attack is not generally difficult to cure.

CASE III.—Pneumonia.—Charles L. Gerou, landsman, æt. 36, native of the city of New York, received from the U. S. ship North Carolina, February 13th, 1847, “affected with pneumonia.” Surgeon Barrabino (of the U. S. ship North Carolina) states that Gerou was admitted to treatment for pneumonia on the 26th January, and from the first, the case was unpromising. He was treated by general blood-letting, saline laxatives, nitrous powders, and counter-irritants to the chest. The patient sank rapidly, and was revived by the active employment of diffusible stimulants and general frictions. It was ascertained, after venesection had been practised, that the patient was habitually inebriate. On the 1st Feb., the expectoration was bloody and frothy. He was using as an expectorant, a mixture of senega, tolu and gum ammoniac; as diet, essence of beef and porter.

Feb. 2d. Delirium had subsided, and liq. ammon. acet. was substituted for the ammoniac mixture; a grain of calomel, with two of powdered squill, was taken every two hours. From this time the patient seemed to improve; there was very little wheezing, and the expectoration was copious, yellow, and thick.

13th, P. M. Very much fatigued by transportation from ship to the hospital. Tinct. opii camph. ʒij. h. s. s.

Feb. 14th. Slept very little. Emaciated; very feeble; cough troublesome; expectoration very tenacious, tinged with blood; pulse soft, small, 100; respiration laborious; mucous râle heard at some distance from the patient. Chicken and chicken soup. R.—Potassi iodid. ʒj; aq. dest. ʒj; bals. tolu ʒj; syrup. prun. virg. q. s. ft. ʒiv. M. cap. ʒss q. q. 4ta horâ. *P. M.* Pulse 112; respirations 40. Dry cups to chest. Inf. lini *ad lib.*

15th. Slept better; more comfortable.

18th. Dry cups were occasionally applied, and anodynes at night. Respiratory sound distinguished in lower part of right lung, which up to this date seemed to be solid. *P. M.* Accelerated pulse; respiration hurried. Dry cups to chest.

22d. Respiratory murmur and small crepitus under right nipple, where, until this date, respiratory sounds were totally inaudible.

26th. Has suffered at different times, in the past four days, from pain under right scapula, frequent and laborious respiration; pulse soft, feeble, 120 to 130. Fluid accumulated in the trachea, causing loud râle. Stimulating expectorants and anodynes were employed. To-day feels more comfortable; passed a good night. *P. M.* Respiration more hurried; pulse feeble; skin dry; no pain; whole of right chest dull on percussion; no respiratory sound. Dry cups to chest. Pulse 140. Wine whey.

28th. Slept considerably; skin comfortable; pulse 96; cough much diminished; some appetite.

March 2d. Seems to be improving. *3d.* Not so well; pulse 96; respiration hurried. *R.*—Hydrarg. c. creta ζj ; pulv. scillæ $\mathfrak{D}j$; pulv. digitalis gr. x; ext. gentianæ q. s. *M.* ft. mas. et in pil. xx. divid. cap. j q. q. 4ta horâ. *P. M.* Enema to open bowels.

4th. Surface pallid; bathed in perspiration; countenance anxious; pupils dilated; respiration hurried; pulse very feeble, 100; whole of right chest dull; no respiratory sound. Ale and water freely; wine whey. -*P. M.* More comfortable; pulse 80, soft, small, regular. During past week, decubitus on left side.

7th. Bronchial respiration and coarse mucous râle heard in right chest. Pulse 120.

8th. Seems to be sinking; drowsy; little expectoration; pulse 128. Port wine p. r. n. *R.*—Potassi iod. $\mathfrak{D}j$; aq. dest. ζss ; syrup. prun. virg. q. s. ft. ζiv . *M.* cap. ζss q. q. 4ta horâ. Asks for broiled ham.

10th. Inclined to sleep; slight mercurial fetor; pulse 128, stronger; scanty expectoration; no pain; feels better, decubitus on right side.

12th. Neither cough nor expectoration; thinks himself better.

13th. Slight expectoration; sputa very tenacious, yellow, spotted with blood.

15th. Feels much better; coarse mucous rhonchus on right side. *P. M.* Pulse 112; respiration 42, laborious.

17th. Expectoration more copious, and sputa less tenacious.

21st. Improvement daily noted since 17th. Decubitus on right side; pulse 104. Says he ruptured a blood-vessel about 13 years since, and was sick about three weeks: since that time has always slept on the right side. Percussion of whole of right chest dull.

24th. Restless; expression anxious; skin soft, temperature normal; pulse 126, anorexia. Suspend treatment. *R.*—Ammoniæ sesquicarb. gr. x; camphor pulv. gr. iv; aq. font. ζij . *M.* cap. ζss q. q. 3tia horâ. Weak milk punch; ζij of brandy to a pint of milk.

29th. Since 24th, no marked change. Surface sponged with tepid water several times, and essence of beef, and other articles of diet, prescribed to nourish. Slight passive hemorrhage from nostrils, for the last three days, never exceeding a drachm at once. Respiration 32; pulse 120. Thinks himself better.

April 1st. Has a bad sore; pulse 116; respiration 28; dress sore with ung. zinci carb. præcipitat.*

2d. Tongue dry and furred; slight epistaxis.

8th. Has taken nightly, spts. ether. sulph. comp. ζj , since the first, in consequence of want of sleep. Pulse 114. Feels better; emp. saponis for bed-sore.

12th. Pulse 114, very feeble; expectorates mucus, mixed with red blood. *P. M.* *R.*—Ol. valerianæ, gtt. i. in pil. h. s. s.

13th. Slept well; more comfortable; copious muco-purulent, offensive expectoration. Mind wanders.

17th. No material change of condition; less delirious.

18th. Pulse 112, feeble; sputa mixed with red frothy blood; tongue dry; lips and teeth covered with sordes; subsultus; muttering delirium—sinking. *19th.* Expired at four o'clock P. M.

* Finding that the article sold as impure carb. zinci, contained no zinc, or any salt of that metal, I caused an ointment to be prepared with the precipitated carbonate of zinc, made in the house, preserving the proportions of the officinal ointment. I am under the impression, after very many trials, that this substitute will be found advantageous.

Autopsy eighteen hours after death. Thermometer 68°.—Body rigid; head not examined. *Thorax.* Right side more rounded than the left. *Heart* and attachments weighed eleven and one-quarter ounces: the coronary vessels were distended with blood; about an inch above the valve, there was a spiculum of bone half an inch long, lying transversely in the coat of the aorta. *Left lung* collapsed; normal. *Right lung* seemingly very much distended; an incision into its anterior surface was followed by a jet of pus, which filled the whole of the right thorax; the lung was obliterated, with the exception of an anterior facing of condensed tissue. The cavity contained, by measure, thirteen pints and five ounces of laudable pus, and was lined throughout by a thick, strong, unorganized membrane, excepting a space over the fourth, fifth, and sixth ribs, where it was seemingly ulcerated through, leaving the ribs for two inches in length, in their whole circumference, bared of periosteum. *Stomach* very much distended with gas. Small intestines normal. *Colon* gradually contracted from the mesial line of the body, to the rectum, (also contracted,) where the external diameter of the gut did not exceed half an inch. The mucous surface was healthy. *Right kidney* weighed nine and a-half ounces, and the left eight ounces: the cortical portion of the left kidney was the seat of an urinous abscess; and in its pelvic portion, and imbedded in the expanded mouth of an infundibulum, was found an irregular crystalline mass, weighing sixty-one grains. Being sawn through, the mass was found to be soft, and to consist of concentric layers. Chemical examination showed it was composed of uric acid, zanthic oxide, traces of phosphate of magnesia, phosphate of lime, oxalate of lime, and free oxalic acid.

The contents of the vesiculæ seminales were examined with a microscope, thirty hours after death, and seminal animalcules perceived in abundance, but not in motion.

Remarks.—The above case is abbreviated from notes by Assistant Surgeon Joseph Hopkinson.

This patient had been under treatment nineteen days on board ship, and in all eighty-three days. The case was carefully watched, but no sign of affection of the kidney, or anormal condition of the intestine, was observed.

CASE IV.—Disease of Colon.—Irving, private marine, ætat. 22, native of Louisiana, received June 5th, 1847, from U. S. ship Ohio (recently from Vera Cruz), "affected with chronic bronchitis." Had been under treatment on board about three weeks. *P. M.* Bowels loose; milk diet. *R.*—Pulv. ipecac. gr. ij; tinct. opii gtt. xxv; aq. font. ℥ij. *M. h. s. s.*

June 6th. A good deal emaciated; loss of appetite; very feeble; chest resonant throughout; no anormal sounds noted; expectoration frothy; frequent yellow, watery discharges from the bowels; no pain. Desires something "hard" to eat, as he cannot relish fluids. Allowed an egg for dinner. *R.*—Acid. nitric. gtt. iij; pulv. ipecac. grs. ij; pulv. opii gr. i; aq. camphoræ, aq. font., aa ℥j. *M. ft. haust. h. s. s.*

7th. Two greenish stools during the night; chicken for dinner. *P. M.* Cough troublesome. Repeat draught of yesterday. *R.*—Tinct. opii comp. ℥ij h. s. s.

9th. Improves; tongue pale, clean; coughs less; suspend draught of the 6th. *R.*—Creta ppt. ℥ss; acaciæ pulv. ℥ij; ext. kramerix ℥j; aq.

cinnam., q. s. ft. $\mathfrak{Z}$ vi. M. cap. $\mathfrak{Z}$ ss q. q. 3tia horâ. P. M. Three stools in the past twelve hours: does not relish food.

10th. Six stools in twenty-four hours; very much prostrated; entire loss of appetite; tongue pale; thirst; skin dry and harsh; pulse quick, feeble, small, 104. Gum water *ad lib.* R.—Plumb. acetat. grs. viij; opii grs. iv. M. ft. pil. iv cap. j q. q. 6ta h.

11th. Complaints of exhaustion; anticipates speedy death. P. M. Medicines, &c., nauseate—frequent stools; skin cool, harsh; tongue pale, dry, coated; pulse very feeble. Suspend medicine. Sherry wine $\mathfrak{Z}$ ij p. r. n. R.—Carb. ammoniæ $\mathfrak{Z}$ j; aq. font. $\mathfrak{Z}$ vj; sacc. alb. q. s. M. cap. $\mathfrak{Z}$ ss q. q. 2da h.

Tranquilly expired at 11½ o'clock P. M.

Autopsy fourteen hours after death. Thermometer 76° F.—Body emaciated; head not examined. Thorax. Heart and pericardium normal; mitral valves slightly thickened. Lungs were grayish, and partially collapsed, and the pleura covered by a thick, adhesive, oily exudation; the lower lobe of right lung very completely congested; a few scattered tubercles were found in the lower lobe of left lung. Abdomen. Liver, spleen, pancreas, and kidneys normal; gall-bladder distended with healthy bile. The stomach exhibited a partial hour-glass contraction; its mucous membrane healthy. The arch of the colon was contracted and thickened as far as the left descending portion, which was of normal size for six inches of its length, and then was again contracted and thickened to its termination at the anus. The mucous membrane was of a dark purple colour; the valvulæ conniventes were almost obliterated. The caput coli was normal in size; but its mucous lining was almost black; just above the colic valve, there was an ulcer in the ilium, half an inch in diameter. The mucous coat of small intestines was perfectly smooth. About three feet from the caput coli, the upper portion of the ilium invaginated two and a-half inches of the lower; a similar invagination, to the extent of four inches, was observed in the jejunum: both probably took place *in articulus mortis*, or *post-mortem*, as no adhesions or marks of inflammatory action were observed.

Remarks.—The above case is from notes by Assistant Surgeon Joseph Hopkinson.

The patient was supposed to be in the last stage of tubercular phthisis on board ship; his general aspect, cough, emaciation, warranted the belief, and seemed to place the abdominal viscera beyond suspicion. The thoracic affection was probably secondary to chronic irritation or inflammation of the colon. The patient was a young man who "had seen better days," and got "out at the elbows" by constantly "putting the best foot foremost;" he had led an irregular life of intemperance at the tables of *bons vivans*, and subsequently with more gross companions, until he enlisted in the marine corps, where he necessarily led a more regular life. He had been about one year in the service.

CASE V.—*Disease of Heart and Colon.*—John Maul, seaman, ætat. 47, native of Delaware, received from the U. S. ship Ohio, June 5th, 1847, "affected with dropsy." Has a bad cough, congestion of the lungs, and œdema of legs; has been treated by hydragogues and bandages.

P. M. Ascites; legs and thighs œdematous; bowels constipated; pulse 104. Low diet; drink inf. juniperi baccæ. *R.*—Hydrarg. c. creta ʒj; scillæ pulv. ʒj; digitalis pulvis gr. x. *M.* ft. mas. et in pil. xx dividend. Cap. j. q. q. 4ta horâ. *Half-past ten o'clock P. M.* Cannot lie down; when erect, fancies he hears a dropping of water in his chest; cannot sleep. *R.*—Pulv. jalap. comp. ʒiss; ol. valerian. gtt. iij; aq. font. ʒij. *M. s. a. s. s.*

June 6th. Slept very little; sallow; eyes dull, heavy; pulse 92; tongue lightly coated, edges clean, friction and bellows-sound of heart. Bowels slightly moved. Has voided, in sixteen hours, 3½ ounces of deep-coloured, transparent urine, which has left a whitish deposit; sp. gr. 1·038, reddens litmus, unaltered by heat; rendered darker in colour, and opaque by addition of nitric acid; after being acidulated with acetic acid, it becomes turbid on adding a solution of deuto-chlor. hydrargyri. Urine not albuminous.

There is a strong double pulsation behind the right sterno-cleido-mastoid muscle, just above the clavicle. *R.*—Pulv. jalap. comp. ʒi. *P. M.* Complaints of cough; bowels freely moved. *R.*—Potassæ bitartrat. ʒss; aq. font. Oij; sacch. alb. q. s. *M. ad lib. sum.* *R.*—Tinct. digitalis gtt. xxx; spt. æther. nitros. ʒj; tinct. opii camph. ʒij; aq. font. ʒij. *M. ft. haust. h. s. s.*

7th. Voided three ounces of high-coloured urine; slept badly. *R.*—Potassæ bicarb., sodæ bicarb., aa gr. x; spts. ammon. aromat. gtt. xxx. *M. ft. haust. s. s. P. M.* Repeat draught; chicken soup.

8th. Slept well, although troubled by cough; urine scanty. *P. M.* Pulv. Seidlitz q. q. h. ad deject. alv. *R.*—Tinct. digitalis gtt. xl; tinct. valerianæ ʒij; aq. font. ʒij. *M. ft. haust. h. s. s.*

9th. Last night had severe pain in lower part of abdomen; relieved by a purging enema. *P. M.* Feels more comfortable; repeat enema.

10th. Feels better; bowels not moved this morning. *R.*—Magnus sulph. ʒj; magnus. carb. ʒj; aq. font. ʒviiij. *M. cap. ʒiv q. q. 6ta horâ.*

11th. More comfortable; states that distension of abdomen was noticed for the first time about six weeks ago: pulse 88, mush and milk. *P. M.* Dyspnœa; very much oppressed; flatulent. *R.*—Pulv. opii et ipecac. gr. x h. s. s. Ol. terebinth. gtt. x, on a lump of sugar, p. r. n.

12th. No change: persist. *P. M.* Paroxysms of coughing; oppression, pulse soft, regular. *R.*—Ol. ricini ʒiss; ol. terebinth. ʒss; vitel. ovi j; sacch. alb., acaciæ pulv., aa ʒij; aq. menth. q. s. ft. ʒvj. *M. cap ʒss q. q. 2da horâ. 8 o'clock P. M.* Cough very distressing. *R.*—Aq. camphoræ ʒss p. r. n.

13th. Feels much better; seven or eight very copious scybalous evacuations from bowels; abdomen less distended; pulse 88, soft, regular; tongue clean; slept well during the last of the night and this morning; mouth sore. Suspend mixture. *P. M. R.*—Ol. valerianæ, gtt. iv in pil. h. s. s.

14th. Abdomen more distended, but not to so great a degree as it has been. *R.*—Inf. salviæ for drink. *P. M.* Pain and oppression increased. *At seven o'clock P. M.*, paracentesis abdominis; drew off eight pints of cider-coloured alkaline serum, sp. gr. 1·018. Relieved. *8 P. M.* Pain in right hypochondriac region, which was relieved by change of position. *8½ P. M. R.*—Vini (sherry) ʒij; tinct. hyoseyami ʒij; spts. æther. nitros. ʒj; aq. font. ʒij. *M. ft. haust. s. s.*

15th. Sore mouth; spat a little blood from mouth and fauces; voided a small quantity of high-coloured urine; oozing of serum from wound in

abdomen. R.—Piper. angustifol. $\mathfrak{z}$ ij ; aq. font. q. s. disp. Oj. Wash mouth p. r. n. Suspend inf. salviæ. P. M. Bowels free; feels weak; supported in a bed chair; dyspnœa slight. Repeat draught of last night. 8 P. M. R.—Niträt. potassæ $\mathfrak{z}$ ss; lupulinæ $\mathfrak{z}$ j. M. div. in chart. vj. M. cap. j q. q. 6ta horâ.

16th. Constipated; no headache; pain in right ear; harsh, loud, painful, dry cough; mouth oozes blood occasionally; respirations 40; pulse 120; eyes dull, heavy; no pain in abdomen. Dry cups to chest. Inf. cort. ulmi for drink. Suspend inf. juniperi.

17th. Allowed to eat a salad. Add acid. sulph. aromat. $\mathfrak{z}$ j to pint of inf. cort. ulmi. 5½ P. M. Ice water. 11 o'clock P. M. Friction sound of heart heard standing at the bedside. Emp. lyttæ 4 × 6 in.

18th. One o'clock A. M. Feels comfortable; sitting up; countenance anxious; pulse 60. Died at four o'clock A. M.

Autopsy nine hours after death. Thermometer 72° F.—Body relaxed; subcutaneous cellular tissue slightly injected with serum; capillaries pour out thin watery blood at every incision. Free of fat; abdomen tumid; lower extremities œdematous.

Head not examined. The tumour on the right side, beneath the clavicular insertion of sterno-cleido-mastoid muscle, which had a double pulsation during life, proved to be a varicose enlargement of the jugular vein, resting in the bifurcation between the right carotid and right subclavian arteries, so that the varix received an impulse at the same instant from the two arteries, but in opposite directions. Several enlarged lymphatic glands in the vicinity probably aided to increase the motion.

On raising the *sternum*, (some of the cartilages required to be sawed through,) the internal mammary artery was observed to be much enlarged. The lungs did not collapse. *Right lung* adherent by old and strong bands to costal pleura; congested, but crepitant. *Left pleura* thickened. Reddish-coloured lymph, a line in thickness, covered the root of the great vessels. The anterior surface of pericardium was opaque and thickened, and marked on the internal surface, near the vessels, by bright red spots, a quarter of an inch in diameter. The pericardium contained about three ounces of dark, slightly turbid serum; a clear, straw-coloured serum filled about a third of the cavity of each pleura. The *heart* very much enlarged; its tissue pale and soft; parietes of normal thickness; its weight, after removing pericardium and washing, was 19½ ounces avoirdupois. All the valves were competent to close their respective openings, which were preternaturally large; all the valves were thickened, but not rigid. Interstitial deposits rendered the internal face of the aorta rough; internal surface of descending aorta was of a deep rose colour. *Abdomen.* Liver somewhat enlarged; tissue rather dense; incision presented a yellow mottled appearance. Gall bladder distended with dark-coloured bile. Stomach, spleen and pancreas normal. Kidneys large; tissue normal; left kidney weighed 7½ ounces avoirdupois; omentum free of fat, corrugated, and seemed as if it were tucked under the colon. Peritoneum injected; patches of lymph were observed at several points on its surface. Caput coli loaded with grayish pultaceous feces; tissue dark purple, and its mucous lining almost black: ilium, several inches above the valve, darkly injected. Colon contracted gradually, and in the sigmoid flexure its coats were thickened, and its mucous lining was studded with chronic ulcers. Small intestines injected.

Remarks.—The above case is from notes by Assistant Surgeon Hopkinson. The case presents an instance of disease in the serous and mucous tissues advancing at the same time, either of which might satisfactorily account for the death of the patient, who was a man of strong, nervous, determined character, and capable of much endurance. The hydrothorax and heart-affection seemed to mask entirely the disease of the abdomen, and to withdraw attention from its symptoms.

U. S. SHIP PLYMOUTH, *Rio de Janeiro*, May 10th, 1848.

ART. VIII.—*Case of Hydrophobia, treated by Chloroform.* By H. HARTSHORNE, M. D.

THOMAS ROGERS, aged between twelve and thirteen years, was bitten by a strange dog on the 27th of 6th month, while attempting to prevent him from worrying some geese. The same dog, within a few hours, bit a young man named M'C——, without the slightest provocation. After running hither and thither, quarreling incessantly with other dogs about town, he was pursued by a crowd and killed in the street. M'C—— had the wounded part immediately excised. On the 29th I saw T. Rogers' wound, which was upon the wrist of the left arm, consisting of one deep tooth puncture, which had bled largely, and a scratch, which had scarcely bled at all. I urged upon his father the propriety of excision, even at that time, the second day after the injury; but he obstinately refused consent. He then proposed applying a blister, which I encouraged, and left the case.

About three weeks after, I called to inquire about him. The wounds had healed perfectly; the boy was in excellent health and spirits.

On the 17th of 8th month, I was sent for, and Dr. Spackman was also called. We were told that he had been sick several days; had been drooping on Saturday; on Sunday had pains in his back, then in his sides, then his arms and legs, and his head—flying from part to part; had fever on Sunday night. Then, or on Monday, he asked for a drink; but when it was brought, refused it. His mother threatened a whipping, and he swallowed some, though with difficulty, having "a catch in his throat." This difficulty was now observed repeatedly, and his mother, "thinking it was a caper," scolded him for it. He burst out crying, and said, "Mother, I can't help it." He had burning fever on Monday. The next day, in fanning away the flies, they noticed that he gasped or sobbed spasmodically when the air was thus moved over his face. He complained of pain in the left arm, above the elbow, and his mother found a "kernel" in the axilla. Now the dog-bite was remembered, and a quack, agent for one "Dr. Stoy," was sent for. He brought his "certain cure" decoction, and it was administered. On Wednesday night the boy had raging delirium; he was never entirely rational, I gathered, since Tuesday, if not from a still earlier time. I should have mentioned that on Sunday he took six grains of calomel, followed by castor oil, which operated well.

We found him delirious, though not violent; with a feverish pulse and

hot skin, though covered with sweat; decidedly salivated, with some swelling of the soft parts about the jaw, and a tongue covered with yellowish brown fur. His state was one of stupidity, with open and watery, though heavy eyes, somewhat like the expression of the excited stage of intoxication. The most striking type, however, of his physiognomy, was that of a kitten which I had seen poisoned with a decoction of kalmia.

Unwilling yet to believe it hydrophobia, I supposed the existence of remittent fever, with salivation by medicine. I offered him cold water in a teaspoon, and he swallowed it without noticeable difficulty, whilst lying on his back. Dr. Spackman had seen hydrophobia before. He fanned the boy with his hat, and the sobbing spasm was produced. This excited his suspicions, from its similarity to the symptom he had observed in two other cases.

As he was costive for some days, an enema and a dose of cream of tartar and jalap were directed in the afternoon. His father now sat him up in bed, and offered him a bowl of water. He began to gasp at once, and after two or three forced swallows, gave it up, and sank back convulsively on the pillow. He can still drink with less difficulty from a spoon, and on his back. We see, therefore, no urgent *symptoms* but those of fever. *Spiritus mindereri* was prescribed, the hair cut short, and the room aired, avoiding an immediate draught on him, which would bring on the spasmodic breathing at once.

In the evening, rather more actively delirious. At midnight he complained to me of pain in his left arm, from the elbow to the arm-pit, "like cramp." He spoke of this two or three times afterwards, in the course of his illness, but it did not seem to be permanently predominant. The pulse increases in rapidity, and loses in force. The next morning there was no important change. The bowels not being acted on, a dose of salts was given. I also had a cataplasm of tobacco put around his throat, and left there all day.

The principal peculiarity, considering it as hydrophobia, was, that the symptoms were not mortally pressing, after an illness of four or five days. But it happens that nearly all the detailed cases have been in adults. Might not age modify the duration of the disease, as youth appears to have more vital resistance than mature age; for instance, under surgical injuries?

A dose of castor oil was required before defecation was produced. The tobacco did not make him sick. In the afternoon he was more talkative. The spasms, as before, on drinking or being fanned. A piece of lint, wet with strongest tinct. rad. aconit. and chloroform, was put over the throat, covered with oiled silk. Mr. Nunneley has made a plausible suggestion of the locally anæsthetic effects of this latter agent. (See *Med. News*, Aug. 1847.) I also began the internal use of chloroform in mucilage, my impression, from other trials, being that it simply reduces the vividness and force of all sensation. Half a dozen leeches were ordered behind each ear, to relieve the turgescence indicated by the dark flush of the face, throbbing, full temporals, and delirium.

At eight in the evening I found he had been worse from the time of the leeching, which had been only in part effected, on account of his struggles. He now fights, curses, and threatens us constantly; is *raging mad*. Once he declared he would bite me; but mostly throwing stones, using his nails—which he did once on one of his attendants—and setting his dog on us, were his fancied modes of combat. And it is a popular error to suppose

that biting is a peculiar propensity in the disease: angry, furious delirium is present, but it shows itself in the use of means and weapons customary and natural to the individual. His father persuaded him several times to try to drink. We succeeded in getting swallowed, with great difficulty, a few tablespoonfuls of chloroform mixture, and then the spasms increased to such a painful extent that it was impossible to get him to drink at all. Not only the muscles of respiration, including the diaphragm, but all the muscles of the neck were spasmodically contracted, throwing the head back for the moment as in tetanus; but, unlike tetanus, in the rigidity instantly disappearing when at rest. From the beginning to the end of the case there has been nothing which the shallowest observer could mistake for tetanus. He could at any time open his mouth wide and put out the tongue, and move his neck when not attempting to drink, or any limb or other part of the body, as readily as in health.

I now tried the inhalation of ether. The coldness caused by its evaporation near his lip, started the spasm every time it was freshly applied; and this finally caused him to resist it so obstreperously, that I was forced to give it up. He had, however, been considerably tranquilized by it. Dr. R. P. Harris was present this evening. The aconite and chloroform were renewed to his throat, and I left him, expecting to find him worse next time.

I went at eleven o'clock with my brother, Dr. E. Hartshorne, prepared to attempt the introduction of a stomach tube, as recommended from the experience of my father, to preserve a means of supplying liquid and nourishment. We found him, however, *asleep*, and he had been so almost since the last visit; but he could be easily roused. Gruel was offered him in a spoon, which at once excited the spasms and furious resistance. Fanning also produced the usual effect. But he had the appearance of being to some extent narcotized. An enema of tinct. opii $\mathfrak{z}$ ss was ordered in case of a return of excitement.

He remained tranquil all night. At seven next morning he appeared decidedly better; pulse softer and less rapid, skin warm, now also dry, which has not been the case before. He is tractable, though wandering: and can drink gruel. I am reminded of the "deceptive remissions," occurring in cases described by authors.

He became worse again at ten o'clock; not so much with violence, as suffering. "It was *horrors* this time," his nurses said. I asked him if he was sleepy; "no, but I'm frightened; those bullocks are chasing me!" He cried bitterly, and had almost constantly the most distressed contortion of the features possible. The pulse is more frequent than last night. The pupil, now and at all stages of the disease, even to the last day, was *natural* in its contraction and dilatation. He can swallow small quantities at a time, to-day; gruel, water and chloroform mixture were given from time to time. Two injections of $\mathfrak{z}$ ss laudanum each were used within two hours. No effect was produced by them, and at four o'clock he was still extremely restless, suffering terrors of apprehension. He cannot now be made to swallow. I began then the inhalation of chloroform, from a handkerchief. He was almost instantly quieted. In a few minutes the lips became slightly blue, and respiration lessened in force; it was then withdrawn, and colour returned. By repeating this whenever the struggling was renewed, I kept him under its influence, most of the time sleeping quietly, for about two hours. The same treatment was continued by an attendant, and another injection of $\mathfrak{z}$ i laudanum was used on the return of uneasiness. He swallows no better, however, and sighs spasmodically

every few minutes. But it is a great end gained to be able thus to control his horrors and violence; if any agency promised hope of cure, it must be one which produces such mitigation and relief, not afforded, I believe, by any other remedial means. The tinct. rad. aconit. was again renewed to his throat.

In the evening he appeared still to be under narcotic influence; but the sighing is perhaps more frequent. Pulse 160. Able to swallow very little indeed. This state continued till near three the next morning, when he became wakeful, but tranquil and more rational than yesterday. Now, however, commenced a rattling in his throat, from the accumulation of thickropy mucus in the fauces and trachea, which threatens to check respiration. Finding the pulse still capable, and that deglutition was improved, for the time, I obtained the presence of Dr. J. W. Wallace, Dr. Spackman, and Dr. E. Hartshorne, to consider the possibility of tracheotomy being called for. In the meantime, however, carbonate of ammonia and brandy-punch were given, and partial expectoration took place; Dr. Wallace was able to remove more of the obstruction by a sponge and forceps, and the operation was given up. The stimulation seemed for a while to improve his condition decidedly. In a few hours the throat was quite clear, after vomiting. But in the afternoon, with a still more rapid and feeble circulation, his violence and misery returned. He vomited repeatedly, and had two or three very offensive passages from the bowels. The chloroform was now longer in producing any effect; and then it did not so thoroughly control his restlessness as before. It was assisted by laudanum injections of ζi at a time.

8½ P. M. He is in a profound sleep, pulse 175 in the minute, and feeble. He has been so since five o'clock, when he had, during my absence, an injection of ζss of laudanum, being then restless. He also breathed a little chloroform about that time. Fanning him now hardly excites any spasm; but occasionally he opens his eyes with a distressed expression; several times also stretching out the bitten arm, and holding it for some moments at full length.

At midnight my brother found the extreme sensitiveness to cold decided as before; a drop of water on the face causing a violent sob. This is satisfactory evidence that the narcotism has not been *excessive*; for who ever saw a person under the influence of opium evince *any* sensibility at all?

Dr. Spackman had observed this evening a new phenomenon, which was now very striking; it was *emphysema* of the cellular tissue around the throat.* It was swelled considerably, and crackled very distinctly under the finger. We had laid him on his side on the occurrence of vomiting, to prevent the ejection from passing into the larynx; and on account of the swelling of the throat, the head was now thrown backwards. But the muscles of the neck were repeatedly and carefully examined; and not the slightest rigidity was found.

He sank away quietly, and died without further spasm, at about half-past two on the morning of the 21st, having lived at least seven days since the commencement of hydrophobic symptoms. Like most or all of the cases described by Watson and others, it was not asphyxia, but asthenia which destroyed him; asthenia in this case was the direct effect of the peculiar poison; as the exhausting fatigue of his spasms and violence was prevented to a great extent by chloroform, and he was able to swallow some liquid

* In the autopsy of a previous case, Dr. Spackman had observed the existence of globules of air in the veins of the neck, and in those of the brain. Might this not suggest the hypothesis that the *materies morbi* is a gas-generating poison?

not many hours before death. I saw the corpse a few minutes after he expired, and found it nearly or quite as warm as in health; so that I requested delay in moving it. No post-mortem examination could be obtained.

The case had been seen by Drs. Spackman, W. Harris, R. P. Harris, E. Peace, E. Hartshorne, R. S. Woddrop, C. Wister, J. W. Wallace, and W. D. Stroud; most of them, however, while he was under the influence of chloroform.

To resume. The boy was thirteen years old. Was taken sick about six weeks after being bitten by a dog proved to behave as if rabid. Had high fever, which had no remission, and yet no characteristics of typhus or typhoid fever; he was not deaf; had no tympanitis; no petechiæ; but had throughout, excessive sensibility to impressions, particularly those of cold, and about the face; had a difficulty, at times incapability, of swallowing, caused by a spasm which made a violent respiration simultaneous with the attempt to swallow, and thus impeded the latter and endangered the passage of liquid into the windpipe; which symptom was constant, and belongs to no ordinary type of disease; had injections of laudanum, ζss or ζj , repeated again and again with no effect: and breathed chloroform for hours, with only short intermissions, with no more effect than to tranquilize him, and produce natural sleep, from which he was, once at least, roused by a return of wild delirium: and yet had no sign whatever of tetanus: no possibility of mania-a-potû: and very little, and only occasional complaint of pain: which pain, when it occurred, except in the first stage, was in the arm which had been bitten by the dog; had also salivation, constant watering of the eyes, and finally vomiting: and whose delirium was, until quelled, of a malicious and furious character, or one of dread, horror, and distress: ending fatally at the end of the seventh day.

What name should be given to such a case? "Hydrophobia" is not appropriate, because in this and other cases they *desire* drink, but are incapable of benefiting by it: would not *dyspotia*, or rabies *dyspotia* (from *δύς*, and *ποτός*, drink), be more correct?

It is a highly important fact, that the inhalation of chloroform, persevered in at intervals, did master the violent delirium and horror of the case. Dr. Smiley of Philadelphia, and Dr. Stout of Easton, have already noticed the same effect; although their cases also were fatal. This removes, at least, one element of evil from the disease. And if any remedial agency can ever give hope of *cure*, it must be, when aided by other means, one which has such control over the symptoms, attained hitherto by no other medicine.

We were deterred from depletion by the lancet by the supposed analogy to tetanus, in which stimulation is mostly requisite and useful. But free bleeding is said to have effected one or two recoveries; and has *à priori* plausibility in its favour, as the disease is inflammatory both in symptoms and post-mortem appearances. We were unwilling to use counter-irritation to the spine, from the idea that death was certain, and that those means only were, therefore, justifiable, which lessened or did not increase suffering.

And the *early* resort to chloroform was prevented by respect for the doubts of those who at first were inclined to regard it as a case of fever.

With a distinct diagnosis, should another case present, in recollection of the mitigation already obtained—would not the practitioner be justified in commencing with venesection: using chloroform, with discretion, from an early period: and applying some powerful revulsive, aided by a narcotic, to the nucha? Dr. R. S. Woddrop proposed vesication, followed by the free application of a salt of morphia. Perhaps *acupuncturation with aconitina* might prove more powerful. This treatment has been found successful in obstinate neuralgia. I used a sort of cataplasm of tinct. rad. aconit. to the throat in the above case. An excessive sensitiveness to incident impressions, and consequently excessive motory action of particular muscles, *including the diaphragm* obviously in this case, as well as those of the throat, seems to be present. Remedies which lessen sensation are the ones, then, which may mitigate the disorder at least. In France, the vapour bath is asserted to have wrought a cure; its efficacy should be tried, and might be aided, as was contemplated in our case, by medication with such articles as tobacco, chloroform, aconite, to produce a powerfully antispasmodic fumigation of the whole surface of the body. Prof. S. Jackson advises bathing in warm oil. When swallowing is impossible, the stomach tube might be inserted through the nostril, as done by Dr. Joseph Hartshorne a number of years since, in the hospital; and life also supported by nutritious enemata.

But careful reflection will only deeply impress the conclusion, that with all the means that man can devise, the malady is one which affords less hope of cure, decidedly, than phthisis; and that prevention by immediate excision (or cauterization?) of the bitten part, is the only safeguard against its result.

ART. IX.—*A case of Fibrous Tumour of the Lower Jaw, in which the left half of that bone was successfully removed at the Temporo-maxillary Articulation.* By S. D. GROSS, M. D., Professor of Surgery in the Medical Department of the University of Louisville.

KITTY, a negress, nine years of age, was brought to me for professional advice, on the 2d of May, 1846, by her master, Mr. Lawton, of Rumsey, Kentucky. Eighteen months previously she punctured the left side of her face with a piece of wood, which she happened to have in her mouth as she fell, head-foremost, from a high fence. Some inflammation ensued, but this rapidly disappeared, and nothing further was thought of the acci-

dent until four months after, when a slight enlargement was noticed at the original site of the injury. This gradually extended until it involved the whole of the left side of the jaw, from the ear to within a few lines of the symphysis of the chin, and from the middle of the cheek to the upper part of the neck. The tumour, which had increased very much within the last four weeks, was very prominent, externally, and reached, at the time of my examination, when the head was held in its ordinary position, nearly down to the clavicle. Articulation and mastication were both very much impeded, and the jaw was so completely ankylosed that it was almost impossible to move it in any direction; indeed, the interval between the dental arches was so small as not to permit the protrusion of the tip of the tongue. The swelling was very hard externally, and towards the base of the jaw were two small points, which seemed to have been the seats of little abscesses, probably of a scrofulous character. In other respects, the skin was perfectly sound. Internally, the bone appeared to be healthy, and did not encroach upon the tongue. The tumour was at first free from suffering, but during the last month the girl complained of a good deal of pain, especially at night. The general health was unimpaired.

Such being the condition of the parts, it was obvious that nothing short of excision of a portion of the jaw could afford any relief. The operation was performed on the 5th of May, in the presence of Dr. Colescott and Dr. Thomas L. Caldwell, and a number of medical students. As a preliminary step, the body and limbs of the little patient were surrounded by a strong apron, carefully pinned behind, as in the operation for harelip. She was then seated upon a chair, with the head inclined a little backwards, and supported by an assistant. An incision was made through the middle of the lower lip to the base of the chin, and, at a right angle with this, another along the body of the diseased bone. The flap thus marked out was then dissected up, and the jaw sawed through a little obliquely, immediately by the side of the symphysis, so as to preserve the two incisors. An incision was then carried from the tragus of the ear to the termination of the horizontal one, already mentioned; the integuments were rapidly dissected up; the masseter, temporal, mylohyoid, and pterygoid muscles were successively separated from their attachments; and the bone was finally raised from its socket. Not a little difficulty was experienced in this stage of the operation, from the cartilaginous adhesions between the coronoid and zygomatic processes, the former of which was very much thickened, and forced the latter out in such a manner as to render the cheek quite prominent, in that situation. The temporo-maxillary joint was completely ankylosed, and the attachments formed by the condyle rendered the disarticulation almost impracticable.

A part of the submaxillary gland appeared to be changed in structure, and was accordingly removed. Several lymphatic ganglions of the neck were, for the same reason, excised. The operation was exceedingly pain-

ful; and, as I was about to disarticulate the bone, the patient swooned away. Scarcely six ounces of blood were lost, and, what is remarkable, not a single vessel required to be tied. The bleeding from the facial artery, which was divided in the early stage of the operation, was readily controlled by the finger of an assistant.

The tongue, stylo-hyoid muscle, and submaxillary gland were fully exposed by the dissection; the parotid lay at the posterior part of the wound; and the external carotid was seen pulsating just below the ear.

The operation being over, the wound was kept covered for nearly three hours with a thick linen compress, frequently wet with cold water. At the expiration of this period, the edges were brought together by six twisted sutures, and a few adhesive straps, the whole being supported by a thick compress and a roller.

Very little pain was experienced after the operation, and the patient slept comfortably during the succeeding night. On the following day there was slight fever, with some swelling of the left side of the face, but this yielded speedily to a dose of Epsom salts and cooling drinks. The needles were removed at the end of the third day, and the parts were found to be beautifully united, both externally and internally. Subsequently the temple and cheek were invaded by erysipelas, brought on, apparently, by premature exposure and improper eating. A dose of calomel and the application of the tincture of iodine, promptly put a stop to this disease; and from this time on, the convalescence was rapid and uninterrupted.

The tumour, on dissection, was found to be of a fibrous character, dense, inelastic, and of a dull whitish colour. The periosteum, from which it probably arose, was considerably thickened, and could be peeled off, without difficulty, from the subjoined bone. The bone itself was considerably enlarged, and a section of it exhibited a uniform, compact surface, with here and there a small elongated cell. The coronoid and condyloid processes were remarkably thick, and the latter had lost its smooth and polished appearance. The body of the bone contained a perfectly healthy molar tooth.

Upwards of two years have now elapsed since the above operation, and there is, thus far, no evidence whatever of any tendency to a relapse of the disease for which it was undertaken. Kitty's master has recently informed me that she is entirely well, that there is hardly any deformity of the face, and that she chews, articulates, and swallows with as much facility as any one.

LOUISVILLE, Aug. 21, 1848.

ART. X.—*Case in which unusual Phenomena followed the Administration of "Sulphate of Morphia."* By L. B. ANDERSON, M.D., of Elton, Hanover city, Va.

Miss V., a young and highly accomplished lady, from excessive fatigue, and loss of sleep in attending a sick friend, became so "nervous," to use her expression, that she was unable to procure the slightest repose. She laboured under slight cerebral disturbance, and a very irritable stomach, at the time I was called to see her; both of which, however, were measurably relieved by the operation of a mild cathartic. But she was unable, notwithstanding, to obtain refreshing sleep.

A fourth of a grain of the sulphate of morphia was now directed to be administered, and a like quantity to be taken every two hours, unless it increased the pain in the head, (which was the only unpleasant sensation she had ever experienced from its use,) until she became entirely composed, or fell into a sound and refreshing sleep. She experienced no unpleasant sensation from its use until shortly after the administration of the third portion, when she complained of a "tingling" or "pricking" sensation in the extremities. Her hands and feet became cold; her fingers were involuntarily contracted and extended; she experienced some uneasiness about the elbows and knees, and also, at times, a slight difficulty in breathing. The time for the administration of the fourth portion having arrived, she had it given, hoping that it might allay or mitigate those unpleasant sensations. A short time, however, only elapsed after its administration, before all the phenomena above mentioned became greatly aggravated. The muscles of the hands and feet became rigidly contracted; the legs were drawn upon the thighs, and they upon the abdomen: the arms were alternately flexed, extended, and then contracted across the thorax: the muscles of the tongue, fauces, and glottis, became so much affected, that articulation and deglutition were almost impossible, and respiration was greatly obstructed. In fact the spasmodic action of all the voluntary muscles was so great, as to simulate a *genuine case* of traumatic tetanus.

Alcohol, ammonia, coffee, cold and hot ablutions, and constant frictions, were resorted to with no effect. The spasmodic action commenced at 2 P. M. and continued until 5½ P. M.; at which time I had anticipated the effect of the morphia would begin to subside; but I was disappointed. Hoffman's anodyne (which I had not been able to obtain at an earlier hour), was now administered, ℥ij in quantity; a portion of which being ejected, a like quantity was again administered. In a short time the spasms began to abate, and in the course of half-an-hour, had nearly entirely subsided. I cannot say that the anodyne was the cause of the cessation of the spasms, or whether it was occasioned by the agent which produced them, being more generally diffused, or being carried off in the secretions. But only a few moments elapsed after it was taken, before the lady expressed herself greatly relieved.

There was no peculiarity in the constitution of Miss V., nor had she ever before experienced any inconvenience from the use of any preparation of opium. It is true, she had in early life been subject to occasional attacks of epilepsy; an attack of which, however, she had not had for a considerable time prior to the use of morphia. She has taken, since the above mentioned circumstance, several of the liquid preparations of opium, from which no unpleasant effect was experienced.

ART. XI.—*Case of Strangulation of a Testicle in the Inguinal Canal.*

By SAMUEL MOSELEY, M. D., late Fleet Surgeon of the Pacific Squadron.
(Communicated by Thomas Harris, M. D., Chief Bureau Med. & Surg.
U. S. N.)

SAMUEL THOMPSON, rated landsman (colored), æt. 18, presented himself on the morning of June 29 1846, complaining of severe pains in the abdomen. At this time there was no abnormal appearance about the part, and, supposing the case to be one of colic, an anodyne was administered, without, however, affording relief. An hour after, being called to the patient, we found him complaining of great pain in the lower part of the abdomen; and, on examination, discovered a tumour in the right inguinal region, extending along the abdominal canal to the scrotum, and about five inches in its longest diameter. The swelling was tense and very sensitive;—in fact, to such a degree that he resisted all our efforts to reduce it by taxis. Our first impression was, that the case was one of inguinal hernia, though the tumour was hard, and did not communicate to the finger the sensation of containing intestine or omentum; and the parts were so much enlarged, that we did not at first notice the absence of the left testicle from the scrotum. He was bled *ad del. animi*, in the erect posture, and nauseated with tartar emetic, with a view to produce relaxation, but without effect. As a dernier resort, we used, with much caution, a tobacco enema, which relaxed the parts and the system generally. It had also the effect of reducing the size of the tumour, and enabled us to return the testicle into the abdomen.

The patient informs us that the left testis has never descended, and that the right, for the last two years, has been alternately present in the abdomen and scrotum. When in the latter position, he always suffers pain in both these parts, which is not relieved until the return of the testis. He is a boy of good general appearance, and in all respects well formed. He states that he has little or no carnal desire, and has never had sexual intercourse.

Dr. M. further says: "As the descent of the testicle is always attended with pain and the risk of strangulation, the question arises whether it would not be better to retain the gland within the abdomen. I am not satisfied that a portion of intestine or omentum did not pass out of the abdominal ring with the testis. If such were not the case, I am entirely at a loss to account for the sudden appearance of so large a tumour, and its equally sudden disappearance after the muscular system became relaxed by the tobacco enema."

ART. XII.—*Notes of Hospital Practice.* By HENRY HARTSHORNE, M. D.

IN the wards of any well filled hospital, a great number of interesting cases must present under more favourable circumstances for the study of disease, than can usually exist in private practice. Under this idea I have prepared an abstract of notes, taken during the last two years in the Pennsylvania Hospital,—not in minute detail, but with a view in each case to some point of particular study. Where inexperience may have been mistaken in this object, and supposed that to be novel which to others is perfectly familiar, allowance must be made.

The irregularity with which different subjects are treated as to order of presentation, is of course the result of the manner in which all notes of actual cases must be taken at the different times when they occur. Some attempt at summary, however, will be made.

CASE I.—*Empyema, with Perforation of the Walls of the Chest.*—Although the result of pectoral inflammation is certainly far from a common one, it so happened that three cases of it occurred in the hospital at the same period, during the service of Dr. W. Pepper.

The first, a German named Duerstein, aged about thirty, was admitted into the surgical wards (11th mo., 1845) for a fractured humerus. During his stay there, he contracted a severe pleuro-pneumonia;—which degenerated into chronic pleurisy with extensive suppuration. Being transferred to the medical wards, the case progressed in spite of treatment, producing emaciation, irritative fever and debility. After several months, the expectoration was observed to increase; and still later, with an extension of the dullness on percussion of the side affected (right side), a tumour began to be developed there, in the neighbourhood of the fifth rib. An alternation was then noticed between the amount of expectoration and the size of this tumour, which would perceptibly expand or lessen from time to time. Upon this fact, and the amphoric respiration at that part, Dr. Pepper founded the diagnosis, that a fistulous opening existed between an abscess in the pleural cavity and the lung. When this opening became obstructed, expectoration would be diminished, and the external swelling increased; and *vice versa*.

4th mo., 1846. After the lapse of one or two months more, the swelling becoming larger, softer, and more painful, the treatment of it became an important question. But before any interference was decided upon, a small rupture of its surface occurred spontaneously, and the patient produced others with a pin in the night, allowing the exit of pus. Dr. Pepper then enlarged the orifice with a lancet. A gradual discharge of matter took place; his pain was nearly all removed, and all the symptoms ameliorated. Under iodide of potassium as a tonic and absorbent, and the use of morphia to allay cough, he continued better, although without much progress toward recovery, as long as he remained in the house, which was about three months more. The same alternation, however, between the external discharge and that by expectoration, continued with less inconvenience than before. When he left the house, he was able to walk, but was very thin, and still had a very troublesome cough.

CASE II.—Bernard Turner, aged forty, had a fistula in his side when admitted. He was very feeble, emaciated, and with violent cough and night sweats. Of his previous history, we could only learn that he had been attacked with pleurisy more than a month before, which attack had become chronic; and that an abscess, pointing in his side, had been opened by a physician, thus producing the fistula. Examined carefully by Dr. Pepper 5th mo. 11th. He found dullness on percussion of the left side, both anteriorly and posteriorly—anteriorly with a well-defined limit between the third and fourth ribs; no respiration on the left side, exaggerated on the right. There was no sound to indicate fistulous communication between the lung and the pleura. The left side of the thorax was somewhat larger than the right. Dr. P. could not detect, with the probe, any opening into the pleura, although he supposed it probable that one existed. The discharge from the external orifice (which is at the middle of the left side anteriorly—over the sixth rib), is at present only a few drachms daily.

The diagnosis was, that pus existed in the left pleural cavity, from chronic pleurisy, without supposing that the lung and pleura communicated. The first treatment was with iodide of potassium, infusion of quassia, nourishing diet—with porter—and a cough mixture of morphia and syrup of tolu.

6th mo. 2d. His side has healed up,—but in his symptoms and general condition, there is little change. A few days after this, the iodide of potassium was stopped, and quin. sulph. and pil. ferri carb. substituted—continuing the other treatment.

17th. Has certainly improved steadily, though slowly.

7th mo. 11th. Does not retrograde. He went out of the house in the 9th month, in tolerable condition, but still with some cough.

He was readmitted 6th mo. 16th, 1847, for a pain in his side, but principally on account of the interest of his case. He had grown stout, and looked vastly better than he did a year before. The fistula had occasionally reopened, and discharged slightly for a short time during his absence,—but closed, finally, about eight weeks before his second entrance. Since its closure he had felt a sense of weight and pain in that side of the chest. Percussion is dull, however, only over a small space, and respiration only absent within the same narrow limits.

The pain was relieved, at first, by cupping and vesication, but returned and increased.

6th mo. 23d. A pouting as big as a marble, and fluctuating, was found over the site of the former fistula; this Dr. Pepper opened with a lancet, and a tablespoonful or two of pus escaped. The next day his pain had disappeared.

30th. He remains pretty well, and free from pain.

CASE III.—Charles Logue had been ill for six months before admission, with cough from the first, of the exact pathology of which we obtained no medical information. He stated that a tumour of his left side had been opened by a physician about six weeks before we saw him. It had then discharged several ounces—the rest being “corked up” by the doctor for fear of weakening him, and allowed to pass off afterwards. His pain, and the harshness of his cough, were eased by the discharge.

The opening was near the sixth rib, below the cardiac region. It gave exit to a large amount of pus daily. He also coughed a good deal, spitting muco-purulent matter;—had considerable pain in the chest, and a slight diarrhoea. Treatment—quinine and iron, full diet, morphia cough mix-

ture, and afterwards p. opii et ipecac. in pill to check his diarrhœa. He appeared, at first, to gain a little strength,—but no essential change took place for some weeks, when the diarrhœa became worse, and aggravated his debility. He was removed to the almshouse; and, although living when we last heard, which was four or five months later, has, most probably, died a victim of phthisis.

Remarks.—In the first of the above cases, resulting from pleuro-pneumonia, there existed not only an external fistula, but also a communication between the lung and the cavity of the pleura. In the second, from pleurisy, we had no proof of any opening into the lung. In the last, of tubercular origin, extensive disease of both lungs and pleura, and the double fistula. In the last two, the opening was in the left side,—in the first, in the right.

The interesting point, with regard to them all is, the effect of *opening* the pleural abscess, when it projected between the ribs, forming an external tumour. In the consultations held over one of them, it appeared to be thought very doubtful whether an incision was proper, or even safe; an idea being entertained that perhaps the entrance of air under such circumstances might be deleterious.

But *à priori* considerations are really against this opinion; the adhesive inflammation which limits the traveling of pus within the chest, with such force as to compel a distension of the integuments, and the formation of a tumour, must certainly, even if the discharge did not prevent it, guard against any injury from the entrance of air. The real difficulty was to be certain in diagnosing the contents of the tumour. But all the appearances and signs, physical and rational, combined to favour the existence of suppuration. And the event of each case proved satisfactorily that the indication was, as pointed out by the efforts of nature, to *open it*. Exactly the same rules should apply to this, as to any other kind of abscess; when it becomes large, soft, and begins to fluctuate, and, by colour, makes known the approach of matter toward the surface, this should be facilitated, and the patient relieved by a careful incision. It is well known that some practitioners extend this treatment even to the management of phthisis, by perforating the walls of the chest, to evacuate a tubercular cavity in the lung.

CASE IV.—*Recovery from Phthisis.*—A man named Evans, aged 27, was admitted in the fall of 1845, into the surgical wards, for a bad ulcer of the leg. He had then all the marks of confirmed consumption; emaciation, hectic, night-sweats, debility, severe and constant cough, with copious expectoration of pus, cavernous respiration, and dullness on percussion over the right lung.

He was ordered infus. prun. Virginian., good diet, and an opiate cough mixture, and the ulcer gradually reduced to a moderate size. It was then occasionally induced to discharge by a poultice for a few days—as he had noticed that when the sore had been nearly healed, his cough and general symptoms were worse.

Being transferred to the medical ward, the same treatment was continued for several months.

4th month 29th, 1846. He is now in good flesh and colour; has *no cough*, scarcely any soreness of chest even on breathing hard, no hectic nor night-sweats, and only a slight expectoration of puruloid matter. This, and very decided cavernous respiration and dullness on percussion over the right lung, are the only signs of disease left. The sore on his leg is now quite small, and discharges little.

5th month 4th. He leaves the house to-day in good case, the ulcer healed. We can consider this nothing else than a recovery from consumption, under circumstances of the greatest disadvantage.

Locality of Tubercle.—The rule which is laid down by authors, that phthisis attacks in preference the *left* lung, has met with many exceptions in our recent hospital cases. For several winter months, more than half of a considerable number of phthisical patients gave evidence of the disease in the right side. Nor was the *upper lobe always* prominently affected; although of this fact we had less opportunity of verification by autopsy, and the apparent exceptions to the rule were few.

CASE V.—Tuberculosis developed by Pneumonia.—The history of a case was simply this. Thomas Galway, aged 30, was admitted with a complication of pneumonia with nephritis; as shown by all the symptoms and physical signs, under Dr. Gerhard's examination.

In the course of a month, the disease of the kidney gave way; but the pneumonia passed through the second and third stages—emaciation, hectic, and night-sweats supervened, and, finally, cavernous respiration, crackling, and profuse expectoration convinced us that phthisis was present.

He died about two months after the commencement of the attack. On post-mortem inspection, all the evidences of pneumonia were found in both lungs, particularly the left, in the middle and lower lobes. And in the most inflamed parts tubercles were seen, in the hard condition of recent formation, excepting one large cavity from softening, in the middle lobe. Dr. Wood concluded that the *pneumonia had developed* phthisis; because the tubercles coincided in situation with the inflammation, which was in the ordinary site of pneumonia, but an uncommon one for tubercle, unless when pervading the whole lung, as it did not here; and because the right lung, which had less inflammation, had also less tubercle. In both lungs, the upper part, where phthisis usually begins, was entirely healthy. The pneumonia was also evidently old, the tubercle mostly new.

Remarks.—The question whether inflammation ever develops tuberculosis, appears then to have an affirmative answer in this case. Authority would determine, however, that it is much less common than the reverse order of things.

Are we not, nevertheless, called by such a case to consider the occasional need of temporary *active* treatment for thoracic inflammation with acute symptoms, even in a person thought to be of a phthisical diathesis? There is perhaps too much opposition to moderate blood-letting, &c., in such instances. Although healthy nutrition is the great indication, yet it should be an even and tranquil nutrition, without any excess of stimula-

tion. And the stimulus of an actual inflammation must of course be the worst of all.

Internal use of Chloroform.—When the inhalation of this substance as an anæsthetic began to attract universal attention, we made at the hospital, at Dr. Wood's suggestion, some investigation into its effects when taken internally. Although very sweet, it is so pungent as to require a large proportion of gum water to obtund its effect on the tongue, throat, and even stomach.

Seventy-five drops gave me a sensation of general diminution of consciousness and sensorial capacity. Sight, hearing, and touch were all made less impressive, but no feeling of exhilaration or of derangement occurred. Drowsiness was positive. The pulse was not at all accelerated; in fact, it was two beats less in the minute. The same effects followed in two other medical gentlemen from two or three times the quantity. One swallowed a drachm, or over 200 drops. He became very heavy, and after a short interval went into a sound sleep. The effect passed off in all of us after an hour or two. No one felt exhilarated or deranged as by alcohol, and in none was the pulse increased. The conclusion was positive in all our minds that it is a *direct sedative* to the cerebro-nervous system—a sedative narcotic.

A woman who suffered with a most obstinate and painful neuralgic affection of the side and head, took 75 drops at night. She slept better than she had for weeks, even after inhaling ether or chloroform, as she had repeatedly; and was also unusually comfortable the next day. She then continued to take it, in a somewhat larger dose, for two or three weeks, every night; and improved under this more than under any other treatment.

From the pungency of chloroform I was induced to expect carminative powers. Upon trial in a number of cases of flatulent colic, I found it in the dose of 75 drops, sometimes repeated, to give prompt relief. It was then used as a substitute for Dover's powder as a soporific at night in rheumatism; and there answered admirably. There was but one patient, a woman with cancer of the uterus, to whom it was given as an anodyne, who alleged that it disagreed with her, causing headache and sickness of stomach without sleep or relief.

Believing it to be less constipating and more purely sedative than morphia, I tried the addition of it to cough mixtures in place of the latter. But here the objection presents, that so large a quantity of mucilage is required, as to oppress the stomach; or, if given in alcoholic solution, the stimulus of this vehicle might be undesirable. Still, as it is very pleasant to the taste, it might be added in small quantity to such mixtures, lessening the usual amount of opium in them.

It might be worth while to try it by enema in strangulated hernia, as a

powerful relaxant to the system generally, and at the same time an excitant of peristaltic action. It is our impression that it is somewhat laxative even when taken by the mouth; but our experiments did not render this certain. There is no doubt, however, that as a purely sedative narcotic and carminative, having the advantage of a sweet, pleasant taste, it might often be made a serviceable medicine.

ART. XIII.—*Further Observations on Trismus Nascentium, with cases illustrating its Etiology and Treatment.* By J. MARION SIMS, M. D., of Montgomery, Ala.

It must not be disguised that there are cases of this disease, in which the displaced occiput cannot be rectified by any means whatever. The child is then born but to die, and will generally manifest symptoms of the disease at an early period; indeed, most frequently from the very hour of birth.

Before proceeding farther, it may be profitable here to take a brief retrospect.

1st. I have related cases, in which trismus nascentium resulted from an *inward* displacement of the occipital bone; that displacement being easily detected.

2d. I have produced facts showing that the same state of things may exist, when the displacement is so *slight* as not to be recognized, unless by a peculiar method of examination.

3d. I have adduced a series of cases, exhibiting the same characteristics, in a minor degree, depending upon the same mechanical agency; and relievable in the same speedy manner, which I have, for obvious reasons, denominated *trismoid*.

4th. I have produced cases to show that the displaced occiput will occasionally require surgical interference, before it can be properly adjusted.

Thus it will be seen, that the cases, so far adduced, are all of one general character; all go to show that the disease is the result of pressure exerted at the base of the brain; and in all this, pressure was produced by an *inward* displacement of the occiput, differing, however, in degree from the slightest to the greatest.

This brings me to the consideration of a class of cases, in which the disease was not the result of an *inward* occipital displacement, (and dorsal decubitus,) as in the foregoing, but was plainly caused by an opposite state of things—by a prolonged lateral decubitus, with a position of the occiput *exterior* to the parietal bones. This relative position of these bones is the only proper one in extra-uterine life. While my facts, so far,

would seem to establish the law that there is no safety, if the occiput be not *exterior* to the edges of the parietals, the following cases will show that there is danger, if it be carried too far.

CASE XI.—A negro child, male, born on Tuesday, the 4th of May, 1846, had been kept on its sides constantly, for the express purpose of preventing trismus. It did very well till Tuesday night, the 18th, (then two weeks old,) when *it refused to suck*, fretting and crying all night. Its jaws were closed, so as to prevent the introduction of the nipple, but could, as in all cases of this disease, be forced asunder by the finger. After much exertion, however, the nipple could be got into the mouth, and then it would suck tolerably well. On Wednesday, it was pretty quiet, but could not suck any better than during the night before. Thursday and Friday, its condition was much the same. It had no other bad symptom, besides this great *difficulty of sucking*. No tonic rigidity, and no clonic spasms, save the facial spasm, induced only when the mother attempted to suckle it.

I saw it for the first time on Saturday the 22d. At night it lay in the bed with the mother, *on its side, with its head resting on her arm*. During the day it slept in a cradle, *on its side*, with a pillow placed crosswise under the head. The occiput was *not* pushed under the parietal bones; on the contrary, it overlapped them all along the lambdoidal suture, thus occupying its proper relative position.

At this time I was carried away with the erroneous idea of "spinal congestion and spinal hemorrhage," and thought it impossible for these to occur, when the child had been laid on the side, so as to prevent a stagnation of the spinal circulation. I could not, therefore, understand how the disease was developed in this case. The fact that the child's head had been supported on a large pillow during the day, and on the mother's arm at night led me to suspect, that the sudden lateral flexure of the neck might possibly have something to do in the chain of causation; so I directed the mother to retain it on the side, but to place the pillow *lengthwise* the cradle; thus making an inclined plane of it, so as to prevent the crooking of the neck. In the evening, I found the child as before, not able to suck any better; but, as the mother had put the same old pillow *crosswise* under its head again, to this I still blindly attributed the persistence of the symptoms.

Once more I placed the child *properly* on its side, giving most peremptory orders to keep it so. Next morning (Sunday), it was no better, although the directions had been followed. The relative position of the bones was the same, the occiput overlapping the parietals very considerably. By compressing the parietal protuberances firmly between my hands, I found that I could very easily make their posterior edges approximate each other, thus lessening slightly the bi-parietal diameter, while the occiput was consequently thrown further outwards. I now, for the first time, suspected that the child had been kept too long on its sides; and that the hard arm of the mother had done the mischief, instead of the pillow. So, I directed a dorsal decubitus, the weight of the head to fall on the occiput. This, continued for two days, did not appear to improve in the least the *difficulty* of exercising the *sucking* process.

The only effect noticed from the dorsal position, was a separation of the parietals along the sagittal suture, putting the commissure on the stretch. The lateral decubitus was then tried for another day, but with no amelioration of symptoms, or modification of the relative position of the bones.

On Tuesday night (8th day of the disease), the child became worse, fretting and crying all night. It continued so for the next week, there being no important change till *Tuesday night again*, when it seemed to be much better, resting well and sucking more easily and freely; and in a week more all the trouble wore off, as it were, imperceptibly. For the last two weeks it had a diarrhœa, the dejections being of a greenish mucus, which continued, in spite of the usual remedies, for a good while after all difficulty of sucking was overcome.

The progress of this case was not controlled or modified by any active interference. It appeared to run its course and exhaust itself independently of anything that was done: observing, at the same time, a most remarkable hebdomadal periodicity in its various phases—for instance, it was born on Tuesday night, the 4th of May: was taken with the first symptoms of the disease on Tuesday night, the 18th (when two weeks old): was much worse on Tuesday night the 25th, and continued so till Tuesday night the 1st of June, when it got much better, and by the following Tuesday, 8th, nearly every trace of the disease had disappeared.

If this had been the only case of the sort that occurred to me, I should never have been able to reconcile it with those in which the occiput was *within* the parietals; but, fortunately, I have two others of a similar character, which throw more light upon the subject.

CASE XII.—Ann, primipara, belonging to Mrs. Somerville, was delivered of a male child, after a labour somewhat tedious, on Wednesday, the 6th of January, 1847. On Saturday the 15th (being nine days old), it became very fretful, and *would not suck*, whined and cried all night. Same condition on Sunday and Monday, when it was sent to me. *It could not suck at all*. Its jaws were firmly closed. It had occasional clonic spasms; some tonic (flexed) rigidity of the extremities, with the thumbs thrown across the palms: could swallow very well when milk was put into the mouth, but could not exert the slightest suction power when the nipple was placed there. It did not seem to have an easy moment: groaning, writhing, whining, and crying in a half stifled tone all the time.

Its head presented a remarkable appearance, being flattened in front, mashed backwards, and elongated in the direction of the vertex to an enormous extent.

The occiput was *not* overlapped by the parietals, but was on the *outside* of them, in its proper place. As in the last case, the edges of the parietal bones appeared to be pushed too far under those of the occiput, particularly up towards the posterior fontanelle. By compressing the parietals laterally, just at the edges of the lambdoidal suture, and also by a direct but slight pressure on the occiput, just a little behind the foramen magnum, every symptom of the disease was greatly aggravated. Relaxing the pressure would relieve the symptoms immediately, or at least allow them to remain as at first. This experiment was repeated “over and over again,” with the same unvarying results, modified in almost exact proportion to the degree of pressure.

The nurse who brought the child to me, said *she thought* it had been lain mostly on *its back*. This representation did not agree very well with the *exterior* position of the occiput; and I was at a loss how to reconcile this fact with the relative position of these bones; because, as I have had occasion before to remark, when an infant has been kept upon the back during the first week or two, the occiput is *obliged* to remain displaced

inwardly, its edges being overlapped by those of the parietal bones, whilst a continued lateral decubitus will in nineteen cases out of twenty, reverse their relative position, which, being once accomplished, is never changed, at least in heads where the bones are well ossified.

From the perfect resemblance of this case to the one last described, I concluded that it, too, would become chronic: and accordingly gave that prognosis.

Having tried the experiment of laying the child in every position possible, I found that the semi-lateral decubitus, as well as the dorsal, had a decided tendency to aggravate all the prominent symptoms. And, that a purely lateral decubitus exerted a like influence in a minor degree, while a fronto-parietal posture seemed to ameliorate them. [Let me explain what I wish to be understood by these terms. The term *dorsal* explains itself. By *semi-lateral*, I mean, when the child lies neither on the back nor on the side, but in a position between these two, which will throw the weight of the head on that part of the parietal between its protuberance and the lambdoidal suture. *Lateral* is used when the weight of the head is sustained on the parietal protuberance: and *fronto-parietal*, when it falls near the outer edge of the orbit.] A careful *fronto-parietal* position soon ameliorated all the distressing symptoms. The child soon stopped crying and "writhing about:" had no chronic spasms after the first day, and no borborygmus. It slept well, but *could not suck*, nor open the mouth any better. It was changed frequently from side to side, but it always rested better on the left; because the parietal bone was not shoved under the occiput to so great an extent here, as it was on the right side, and hence a less degree of compression was exerted upon the great nervous centre.

I retained the child at my own house, so that I might watch it the more carefully, having determined to puncture the scalp, and elevate the depressed edges of the parietals, if it should become necessary; but, as its condition had improved so much in twenty-four hours, I sent it home with proper directions for its management, and with instructions to bring it back to me if it should get worse. Being confined to my bed at the time with a long spell of sickness, and hearing occasionally that it was no worse, I did not see the child after this till Thursday the 28th of January, the thirteenth day of its disease, when it was again brought to me. I was surprised to find that it had been getting progressively worse, from day to day, till now it presented a most aggravated form of the disease. Its hands were closely clinched; forearms flexed upon the breast; thighs, legs, and feet all in a state of rigid demiflexion; there was no such thing as straightening them by any warrantable degree of force. It had frequent and severe spells of clonic spasm, with hard-featured grimaces, and a whining, barking, half-suppressed sort of cry. Jaws still locked—could swallow, but was wholly *unable to suck*; and had a diarrhœa superadded to its other symptoms. During the clonic spasms, its mouth is twisted to the right side, and its head bathed in a most profuse perspiration. The face looks quite placid, when not contorted by these horrible spasms, which recur spontaneously every few minutes, or are induced at any time, by a sharp sound, by motion, and by the gentlest titillation of the lips and nares; and also, by the evacuation of wind or feces, or else this latter is a concomitant of the spasm, which is, perhaps, more probable.

I looked upon the case now as almost hopeless, but, as a matter of experiment, I punctured the scalp over the lambdoidal suture on the right side, with the point of a short strong knife, and, making a lever of it, pryed

out slightly the corresponding edge of the parietal bone, which produced a very severe attack of clonic spasms. I did not wait to see the effect of the operation, but sent the child home immediately, not hearing from it till I was able to visit it two days afterwards, when I obtained from the mistress a more correct history of the case.

She says, that immediately after the puncture of the scalp (two days ago), the child's crying was strong and natural, opening the mouth widely, so that the tongue could be seen distinctly—and this for the first time during the progress of the disease—and that it now rests better on the right side than the left. Before, it rested better on the left side, because the left parietal being less depressed, produced, of course, less compression of the brain; but now it lies best on the right side, for the reason that the slight puncture has, to some extent, elevated the depressed edge of the right parietal. She says, moreover, that, after the puncture, the child could extend the arms voluntarily, (a thing it had not done before,) but that the wrists remained flexed. To straighten the wrists, would be at the expense of flexing the forearms; otherwise it could not be done.

Mrs. Somerville also informed me, that the mother, up to the time I first saw the child, always kept it square *on its side*—nor does she remember ever to have seen it lying in any other position than this, *with its head resting on the mother's arm*. This statement differs from the one given by the nurse, and explains readily enough the relative position of the bones; for the constant pressure of the mother's hard arm on the parietal protuberance accounts for the inward *abnormal* displacement of the edges of this bone. I say *abnormal*, because the displacement was greater than it would have been under ordinary circumstances, and greater than is necessary for holding the occiput in its proper place *exteriorly*.

It was now easy to understand how the child had been getting worse for the last twelve days, for Mrs. S. says, that the nurse, not a very intelligent negress, had told her, as I directed, to lay it on the side, and keep it so; and that she had followed the directions to the letter. This obedience to instructions, not sufficiently explicit, had the effect of driving the edges of the parietal bones further under the occiput than at first, and hence the aggravated state of the disease.

Mrs. S. had observed that the act of laying the child down, *always* induced violent spasms, which lasted for a long time, gradually yielding to a state of quiet and sleep, or rather stupor. She noticed often, that these bad spells could be instantly relieved by changing it to the erect posture, and that it could open its mouth wider, swallow better, and cry louder when erect, than when it was lying down—and that it was easier the more it was laid over on its face. Did not these facts, particularly when conjoined with the day's observation at my own house during the early history of the case, plainly point out the course to be pursued?—and the course which the good common sense of Mrs. S. would, in all probability, have taken with it, had she not been restricted by direct instructions from me (carried loosely and carelessly by the nurse), to keep it all the time on its side? Of course I ordered immediately what was so plainly indicated, viz.—to hold the child erect as much as possible, and when it became necessary to lay it down, to place it in the *fronto-parietal position*. This was at nine o'clock in the morning. I visited it seven hours afterwards, viz. at 4 P. M., and ascertained that *it had not had a single clonic spasm since the erect posture and fronto-parietal position had been observed*—whereas before, they were frequent; that it had slept quietly all the time—whereas

before, it hardly slept at all, and was never quiet, unless in comparatively a comatose condition.

Sunday 31st, 11 A. M. It cried but twice last night; formerly it fretted and cried all night long. It now cries louder and freer, having less facial spasm. After dressing it this morning, Mrs. S. held it erect till it literally nodded itself asleep, when it was laid down, as before directed, without the slightest disturbance.

4 P. M. It has been asleep ever since last visit. It now has the power of turning the head spontaneously, notices any noise, and for the first time, sharp sounds do not excite clonic spasms.

Tuesday, February 3d. It sucked to-day for the first time since the disease set in (18th day). It was somewhat difficult to get the nipple into the mouth, but when it got a good hold, it sucked very well.

A further daily report of the case would hardly be profitable. From the very moment that the erect posture and *fronto-parietal* position were instituted, the child began to improve. Does it not exhibit in a wonderful manner, that a very trifling difference in position may exert the most powerful influence for good or evil? Thus, we see the disease developed while the child's head lay on the hard arm of the mother. We next see the urgent symptoms ameliorated by a careful position. Again, they are aggravated to a tenfold degree by a prolonged *lateral* decubitus, whereby the edges of the depressed bone are pushed farther under the occiput; and then again they are modified, for a time, by puncturing the scalp and elevating the bone. We now find them better when the child is held erect, so that there is no pressure at all on the head: worse again when it was laid down in such a way as to drive the depressed bone further under. And finally, we see it immediately relieved of all the urgent symptoms, and gradually relieved of the whole disease, simply by attending to such a position, and such alone, as would prevent a pressure, which, from the very nature of things, is obliged to be expended upon the medulla oblongata.

Even after the predominant or urgent symptoms had been relieved, there were still evidences of some persistent derangement of the symptoms. For instance, its face looked hard, furrowed, and old, its hands remained shut, with the thumbs thrown across the palms, and the thighs, legs, feet and toes remained in a state of rigid demiflexion. These contractions all gradually gave way, but were something like two months in doing so. During this time, I would occasionally puncture the scalp over the lambdoidal suture, with the point of a crooked awl, and prize out the edges of the parietal bones, and always, with the effect of greatly modifying the rigid flexures of the extremities. The operation, being simple and safe, was frequently performed, without the loss of a drop of blood, and invariably with the direct effect above described, thus showing plainly that it was pressure on some part of the great nervous centre, which, irrespective of every other condition, was producing all the mischief.

CASE XIII.—A negro woman, Frances, gave birth to her third child, a mulatto, on Monday, the 8th February, 1847. Nothing unusual in the labour. It seemed to be doing well till Friday the 12th, when it fretted all day, but did not refuse to suck till about six o'clock P. M. It rested pretty well, however, until midnight, when it waked up crying and whinping, and *could not suck at all*. It continued in this way all day Saturday. I saw it late in the afternoon, and immediately recognized the disease. It had been kept all the time on its sides for the avowed purpose of preventing

trismus ; but *its head rested on the mother's arm*, night and day, whether it was applied to the breast or not.

Occiput occupying its proper relative position *exterior* to the parietals ; but these have been, by the hard arm of the mother, pushed farther under the edges of the occiput than is compatible with safety. I cautioned the mother against the danger of supporting the child's head on her arm, and as there was nothing urgent or alarming about the case, the *inability to suck* being the most prominent symptom, I told her that the disease would, in all probability, become chronic ; that she must not feel uneasy as to the result ; that if it should get worse, I would operate on the bones of the head, and thereby relieve the disease ; that there was no immediate danger, and I did not therefore deem an operation now necessary, or even justifiable. So I left without making any other prescription than a frequent change of position, merely guarding the mother against the danger of supporting the head on her arm.

Being exactly like the two cases last related, I thought it would run the same long course, and eventually get well, for my mind was full of the idea of *spinal hemorrhage*, and I supposed that, while a child was kept on the side, this could not occur, and that death could hardly take place without it, and therefore that I could safely afford to watch the case. I felt no uneasiness at all as to the result, but I was very greatly mistaken. My confident manner of speaking deceived the mistress and the mother of the child, and although it continued to get worse very rapidly after my visit, still I was not apprised of its situation. Being called some distance into the country early the next morning, I did not return till late in the afternoon, and was somewhat surprised when my friend Dr. Boling informed me, that he had been attending my little patient all day, that he thought it would die very soon, and that (as he jocosely remarked), "I had better hasten to it and see that it was placed in a *proper position*."

When I arrived, I was astonished to see it in what I usually considered the fatal stage of the disease. Tonic rigidity extreme—clonic spasms violent and very frequent, following each other in rapid succession—head deluged in a most profuse perspiration—perfect inability to swallow—pulse imperceptible—respiration very frequent (138) and panting. Really, the child looked as though it would die directly. When I left my office, I picked up a crooked awl, with which I intended to puncture the scalp, and push out the edges of the parietal bones ; but, as it then appeared to be moribund, I feared to make the attempt, lest its death should be attributed to the punctures with the awl. For experiment, however, I turned the child over on its belly across the mother's lap, with its chin resting on her knee, so as not to obstruct its respiration, while I stooped down to watch the expression of countenance. Very soon, the panting and spasms ceased—the hands became relaxed—the mouth fell open, and the child got quiet. For a moment, I thought that this new position had done wonders, in the way of relieving its sufferings, and perhaps it may, for I soon discovered that it was (to all appearance) dead. I took it in my arms, and turned it over on the back, secretly congratulating myself that I had not punctured its head with the awl ; when it gave a gasp, and a slight spasmodic quiver thrilled gently, but suddenly, through its whole frame. The mistress, the mother, and all present, thought the child dead. I gave it a shake, and threw some water in its face, to excite, if possible, the respiratory act, which produced no more effect than if it had been thrown on a stone. While wiping its face, it had another quivering to agitate its whole body. I now

quickly turned it over, punctured the scalp along the lambdoidal suture, and prized out the edge of the parietal bone. This produced a general spasm,—then another—and another—and a gasping respiration, the eyes flying open—all resembling very much the effects of electricity suddenly applied to a body just dead. The other side of the head was punctured, and, in like manner, the edge of the other parietal bone was pushed out. The breathing improved; indeed, became regular. The tonic rigidity of the extremities returned. The jumping clonic spasms were re-established, and the child was recuscitated. All this appeared to be the result of motion, communicated to the nervous centre, by prizing out the edges of the parietal bones, which first excited general muscular contractions, and a gasping respiration, whereby the vital spark, not quite extinguished, was again lighted up. These punctures and prizings had the effect of elevating to some extent, the depressed edges of the parietal bones, but the occiput was not forced under them.

After this, the child was placed carefully in the *fronto-parietal* position (before described), with the view of preventing the further displacement of the edges of the parietals.

10 P. M.—It has now been five hours since the occurrence last described. The occiput is occupying about the same relative position, *exterior* to the parietals, as when I left. The edge of the right parietal seems not to be too far under the occiput; but that of the left is, especially up towards the posterior fontanelle;—so I punctured again with the awl, and prized out this side a little more, but not enough to change the relation of the two bones. There is considerable febrile reaction,—breathing less than 80 per minute—panting and grunting with every expiration—less tonic rigidity—hands and forearms can be extended by a little force, which could not be done before—has slight clonic spasms every two or three minutes, during which it groans and *strains*, being apparently threatened with asphyxia.

Still impressed with the idea that it was the *spinal hemorrhage* that caused death in this disease, and knowing there was no chance for this to take place while the child was not laid so as to favour the gravitation of the blood toward the spine, I blindly indulged the hope that it might yet recover. But it died at day-light on Monday morning. It did not die as children usually do of this disease—with violent agonizing, asphyxiating throes, but its strength gradually failed, and its life flickered away gently, almost imperceptibly. It lived twelve hours after elevating the depressed edges of the parietal bones, having been sick, in all, about three days.

Post Obit. eight hours after death.

[Let it be remembered that this child had never lain on the back from the hour of birth till it died—and that it died lying in the *fronto-parietal* position.]

Umbilicus—healed up beautifully.

Spine.—In cutting down on each side of the dorsal vertebræ to the transverse processes, for the purpose of taking out the spinal column, blood flowed very freely, but three times as much so from the right side as the left. Same phenomenon observed in cutting through the muscles in the cervical region. This is easily explained by the fact that the child was confined to the right side during the last hour of life, which, of course, favoured the gravitation of the blood more to the right side of the body, and correspondingly, to the right side of the spinal column.

Medulla Spinalis—no extravasation within the *Spine*.—There was

some little on the posterior surface of the medulla spinalis, exterior to the dura mater, and just opposite the upper dorsal vertebræ, but it was evidently a post-mortem appearance, as it occurred only in the concavity of the column, where the blood was obliged to settle down, if at all. If it had been *ante-mortem*, it would have been found on the *side* of the medulla, as the child had never lain on its back during its life.

Brain—perfectly bloodless.

Lungs—congested, exhibiting a most marked appearance of deficient oxygenation.

Other viscera—normal.

This completes the number of cases that I shall bring forward on the present occasion. I have many others, but these will suffice for all practical purposes. They seem to me to justify the conclusion that trismus nascentium is the result of mechanical causes; the *predisposing*, being protracted or tedious labour, but particularly, a too well ossified state of the fœtal cranial bones. The *exciting* cause is undue pressure on these bones, more especially on the occiput; while the *immediate* cause is undue compression of the medulla oblongata and the nerves originating from it.

These cases are, naturally enough, divided into two great classes. The first and largest is, where the occiput was displaced *inwardly*, with its edges overlapped by those of the parietal bones. In the second (embracing but three cases), the occiput occupied its proper relative position on the *outside* of the edges of the parietals. In the first, the children had been retained mostly on the back, or in the *semi-lateral* position. In the second, they had been kept constantly on one side or the other; and all three of them had the head supported principally on the mother's arm, thereby causing an approximation of the parietals under the edges of the occiput.

Now it may very reasonably be asked, "How does pressure, in these two opposite modes, produce precisely the same results?"

This problem puzzled me for a while, but it is now easily explained. Let any one who feels curious on this point, procure a recent fœtal head, cut away the frontal bone, and scoop out the cerebrum, leaving the falx, tentorium, cerebellum, and medulla oblongata and its nerves, *in situ*. If the occiput is not very movable, let him cut it loose from the parietal bones along the lambdoidal commissure, leaving a small point of attachment right at the apex, or posterior fontanelle. In this condition, the bone can be made to lap over, or slide under the edges of the parietals, at will. Now let the occiput be displaced *inwardly*; make firm pressure upon it, at the same time that you look through the opening made by the removal of the os frontis; and it will be seen that the displaced occiput pushes forward the whole of the cerebellum (with the posterior lobes of the cerebrum); that the pons and medulla oblongata are pressed forcibly against the cuneiform process of the occipital bone; and that the fifth, seventh, eighth and ninth pairs of nerves are compressed, pinched, stretched, or thrown into folds near their several points of emergence from the cranium. And here it would be easy enough to analyze the different symptoms of the disease,

showing their dependence upon this pathological condition. For instance, the ninth pair of nerves (distributed to the muscles of the tongue), coming out of the fissure between the corpus pyramidale and olivare, being the first and easiest compressed, accounts for the difficulty of sucking being the earliest symptom of the disease. The accelerated circulation, but particularly the hurried breathing, and the laryngismus, may be traced along the eighth pair of nerves and its branches; while the hard-featured, puckered-up expression of countenance, with the spasms of the eyelids, or their open paralyzed condition, may be seen along the portio dura of the seventh pair.

The locking or falling of the jaw, and the great difficulty of prehending the nipple, are referable to pressure exerted on the motor branch of the fifth pair. The tonic rigidity of the extremities results from the persistent pressure on the pons, propagated through it to the motor track of the medulla, while clonic spasms come on as a consequence of these, or are excited by sound, by motion, or anything affecting the excito-motor system.

The regurgitating sort of puking, the borborygmy, and the diarrhœa, are to be accounted for by the intimate connection existing between the sympathetic and the nerves implicated at the grand point of pressure. But why take up time with these physiological explanations? It is enough to point out the simple truth of mechanical pressure, and to demonstrate its ultimate expenditure.

Let us now see what is the result of pressure on the parietal bones, when the occiput is *exterior* to them. Give them, then, this relative position. Now look, as before, through the opening made by the removal of the os frontis; then compress the parietal protuberances laterally, so as to cause their lambdoidal edges to approximate each other, thus diminishing the bi-parietal diameter—and what is the consequence? Why, the posterior lobes of the cerebrum are compressed, and pushed down against the tentorium; the occiput is thrown out from its vertical direction, which causes a stretching of the tentorium; the cerebellum is consequently squeezed up between the tentorium above and the occiput below, and is thus made to slide forwards, pushing the medulla oblongata into its bed in the cuneiform process of the os occipitis, and compressing it there just as certainly and as effectually (though not quite so strongly), as when the pressure was made directly behind on the occiput. This is no guess-work—it is matter of absolute certainty, of mathematical demonstration. Thus we see that the apparent contradiction, in the two classes of cases, is easily reconciled; and that the disease in both results from a pressure, which, coming from opposite directions, is shown to be expended at precisely the same point. In the second class of cases, the pressure being less direct, and of course less powerful, accounts sufficiently for the disease being milder, and becoming chronic.

If it should be asked, “Do I relinquish the idea, formerly advocated,

that a *spinal hemorrhage* is essential to the disease?" I answer, yes. I entertain no mere opinion which I will not give up at once if facts do not sustain it. Was there ever a more unequivocal case of trismus than the one last related? And yet the brain and spinal marrow were *both perfectly bloodless*. This was all explained by the position in which the child had been placed and retained, from the hour of birth up to the very moment of death. Does it not prove "that, under certain circumstances, a child may die of trismus in its most aggravated form, and yet have no extravasation within the spine?"

But that the greater number have this *spinal extravasation*, is proved fully by reference to different authors on the subject. For instance: Matuszinski observed twenty-five fatal cases. Post-mortem examinations were made in twenty. In sixteen, there was a *spinal hemorrhage*, and in the other four, there was none. How is this discrepancy to be accounted for? Why, every individual case must be studied by itself, and be decided on its own merits. I have known some cases to be developed at midnight, and to die in three or four hours; and I have heard of others that did not live six hours. Now, in these, I should not expect to find the organic change spoken of, because they die of asphyxia before there is time for any organic lesion to take place. But the great majority of cases live twenty-four, thirty-six, or forty-eight hours, or longer. In these, there is every probability that we will find the *spinal extravasation*, because the dorsal or semi-lateral decubitus (ordinarily observed), will cause a gravitation of the blood, and a stagnation of it, in and around the spinal canal, to such an extent, as to result in this extravasation, which could be prevented only by a very decided lateral decubitus, but which no one would, *à priori*, think of adopting.

What, then, is the cause of death in this disease? Why, they all die of laryngismus (and its immediate consequences), caused, no doubt, by pressure on the eighth pair of nerves. Relieve the clonic spasms, and, with them, the spasm of the glottis, and the other symptoms are of no importance. Look at Case XII., where the tonic rigidity continued for two months; where the expression of countenance was trisimal all the time; where the difficulties of sucking lasted for several days; and yet, the very moment that the clonic spasms were arrested by a proper position, the child was evidently out of all danger. This fact suggests a very important lesson in such cases as are not susceptible of being remedied by position, or by an operation, and that is, to resort to tracheotomy* to prolong life till nature can accommodate the brain and nerves to the pressure, or till the nutritive function shall have effected the necessary changes in the shape and position of the parts exciting the morbid influence.

* [Our esteemed correspondent should not overlook the fact that tracheotomy has been resorted to in tetanus, and has entirely failed. See preceding number of this Journal, p. 222.—EDITOR.]

A case occurred to me, last December, which would have justified this procedure. After a tedious labour, the child (a fine large boy), was still-born. With the establishment of respiration the first symptoms of the disease were manifested. The inability to suck, and the clonic spasms, existed from that time. The occiput was considerably depressed, and (as in Dr. M——'s child, Case X.), appeared to be too much curved in, up towards the apex, thus presenting the segment of a smaller circle than that described by the edges of the parietal bones, and could not, therefore, be made to overlap them. I tried a well regulated position for half a day, but as the child got worse every hour, I determined to resort to the operation of puncturing the scalp, and elevating, if possible, the edges of the depressed bone. This was easily done by means of a shoemaker's awl, the curve near the point resting against the edge of the parietal as a fulcrum, while with the point the occiput was prized out. But I did not succeed in this way; so I followed the plan of Dr. Harrison, and cut down on each side of the lambdoidal suture; then with the flat end of a strong probe on one side, and a common director on the other, I could push out the edges of the occiput.

The effect of this prizing was most satisfactory. All the urgent symptoms were immediately modified or controlled by it, but would instantly return with all their violence, by letting the bone fall back into its depressed position. This experiment of prizing out the occiput was performed frequently, with the same unvarying results. But it could do no permanent good, because the peculiar shape of the occiput prevented it from overlapping the edges of the parietal bones. Holding the bone thus, did not suspend the disease—it only mitigated the symptoms, so as to make them bearable—proving, beyond all doubt, that they were the result of mechanical agencies, and that, too, independently of every other consideration. I did not think of tracheotomy at the time; but if I should meet with another such case, I shall feel no hesitancy in resorting to it, simply with the view of keeping the trachea open till time and position could do the balance.

What are the immediate consequences to *vital organs* arising from pressure on the great nervous centre, produced by the displaced occiput? Why, the first and most dangerous is the spasm of the glottis, the *laryngismus*, which might *possibly* be averted by a timely resort to tracheotomy. The next is the spinal congestion and hemorrhage, which can be effectually prevented by a proper lateral decubitus. And the last is a prolonged diarrhœa and a consequent marasmus, which cannot be controlled by remedies, as long as the pressure persists. Thus it is seen that the *immediately* dangerous condition is the strangulation, the closure of the glottis. Case V. is an example of what may be endured, provided the respiratory function is not interrupted. This child had trismus from the end of the first week, till it was nearly five months old, but from peculiar circumstances, the pressure was thrown high up on the occiput, and was

expended, no doubt, principally on the mesocephalon, and hence the respiration was not obstructed.

I have shown that the ultimate expenditure of the pressure is upon the medulla oblongata and its nerves. If the symptoms were the result simply of compression of the cerebellum, then would the effect be crossed—exhibiting itself on the opposite side, when the pressure happened to be more on one side: but such is not the fact. For instance, in Mr. Winter's son (Case III.), "the *right* edge of the occiput was pushed *under* the corresponding part of the parietal bone, while the *left* was riding *over* its parietal neighbor," and it had "occasionally a little *spasmodic quivering* of the *right* arm and leg, but not of the *left*. The movements, or spasms, of the arm and leg were, as well as could be determined, synchronous." Of course this could not be from the position of the *left* edge of the occiput, for it was in its proper place, and when the *right* edge was made to assume a like position, every abnormal symptom vanished instantly. Hence it originated from pressure by the *right* side of the occiput, expended on the *right* side of the medulla oblongata. Cases VIII. and XII. illustrate the same law.

I might dwell upon some other points that need further investigation, but in the absence of a sufficient number of facts, it would be a waste of time.

It is not presumed that I have explained everything in connection with this subject; far from it: much remains yet to be done. My observations are but a small beginning.

I have the history of several cases not included in my published papers. Of this disease, besides a long list of those denominated trismoid, twelve have been remedied simply by rectifying the displaced occiput.

I now leave the reader to judge how far the cases related will sustain the announcement made at the outset of this paper—"That trismus nascentium is a disease of *centric origin*, depending upon a mechanical pressure exerted on the medulla oblongata and its nerves; that this pressure is the result, most generally, of an *inward* displacement of the occipital bone, often very perceptible, but sometimes so *slight* as to be detected with difficulty; that this displaced condition of the occiput is one of the fixed physiological laws of the parturient state; that when it persists for any length of time after birth, it becomes a pathological condition, capable of producing all the symptoms of trismus nascentium, which are instantly relieved simply by rectifying this abnormal displacement, and thereby removing the pressure from the base of the brain."

REVIEWS.

ART. XIV.—*Elements of General Pathology: A Practical Treatise on the Causes, Forms, Symptoms, and Results of Disease.* By ALFRED STILLÉ, M. D., Lecturer on Pathology and the Practice of Medicine, &c. Philadelphia, 1848: Lindsay & Blakiston. 12mo. pp. 483.

BOTH students and teachers have long felt the want of a treatise in our own language on General Pathology, as an aid and introduction to the study of Special Pathology,—something more complete than the few brief chapters devoted to this important and interesting subject in certain late works on practical medicine. A more copious work of reference for the definition of the terms and the description of the phenomena of disease was needed, than is afforded by medical dictionaries—in short, a work from which might be learned the absolute value and meaning of symptoms and phenomena in themselves, and thus furnish sound general notions of etiology, semeiology, and pathological changes. That the ideas of students are generally very obscure upon these subjects, is a source of annoyance, as well to themselves as to their teachers. They learn the names of things without any distinct idea of their meaning or causation; they hear a group of symptoms by name described as being present in a given disease, and regard each one as something belonging to the disease itself, because they have neither physiological nor pathological knowledge enough to know how these symptoms arise or what they indicate.

But it is not students only who may derive benefit from the study of general pathology, “comprising as it does within itself, the most unpretending elements and the most exalted philosophy of medicine.” It is not to be regarded simply as the introduction, but as the complement to the study of disease. It is the result of the combined observation and matured judgment of the profession—an exposition, not of one man’s experience, but of the ascertained laws and admitted facts of ages. Some of the highest problems of the science must necessarily be discussed in a treatise of this character, and no one is so advanced in the knowledge of his profession, that he may not, in a good treatise on this subject, find much food for information and reflection.

To fill up this void in our medical literature, three books have nearly simultaneously made their appearance: one, the excellent and classical treatise of Chomel; another, the admirable Principles of Medicine by Dr. Williams, both already noticed in this Journal; the third, the work of Dr. Stillé, whose title heads this article, and which, as the *original* production of an American author, we shall review somewhat in detail.

The work commences with an introductory essay on medical truth, its nature, sources, and means of attainment. This chapter cannot be too warmly recommended to the diligent perusal, and deep reflection, of young medical men. The author defines and describes the nature of revealed, intuitive, and demonstrative truth, but shows that medical truth differs from all of these. It is inductive, it is neither to be imagined nor guessed at, and in few cases can it be strictly demonstrated. “Its origin

is not in the mind, but in external nature;" close and patient observation of facts, and experiment, furnish its only basis, and the analysis and co-ordination of these give us its laws. It is in the full spirit of this inductive or Baconian philosophy, so ably expounded by Dr. Bartlett in his *Treatise on the Philosophy of Medical Science*, that this work is conceived and executed; and happy will it be for the progress of the profession in this country, if our young men are early imbued with these doctrines, and taught to reason and study in this spirit. It is in this direction alone that medicine can make solid and reliable advances; and now that the ardour of progress, the active straining for novelty, and new discoveries in chemistry, physiology, and therapeutics, are weekly filling our medical journals with half-fledged theories, ingenious suggestions, and fanciful analogies—brilliant, and but too seductive to the warm imagination—it is more than ever necessary that this cautious, sure, and certain mode of philosophizing should be deeply impressed upon the minds of our young men, to discipline their reason, and show them the true limits within which our science may be successfully prosecuted.

This mode of study and reasoning has, at all times, been the only one by which the profession has really advanced. The works of those great masters of our art which have always commanded the respect and confidence of the profession, no matter what was the reigning medical doctrine—works which we now cite confidently as worthy of credence, and to whose streams of wisdom we cannot too often revert, have certain marked features in common. They are all works of observation, not of theory; works containing the evidences of diligent study of nature, not of fanciful reasoning; presenting us with clear descriptions of facts, not *à priori* enunciations of principles. They abound in the history of the origin, march, symptoms, and events of disease, not in formulas, recipes, and antidotes. The great principles of management are laid down in a simple, clear, and comprehensive manner. Regimen, hygiene, and attention to the efforts of nature to relieve herself, are insisted upon. They endeavour to sketch the general plan found most serviceable in treating a given class of diseases, and not to formulize a treatment for any individual case. They recommend simplicity and moderation in the use of drugs, but the closest attention to all surrounding circumstances, in the prevention, management, and convalescence of disease. Such are the striking characteristics of the works of Hippocrates, Galen, Aretæus, Baglivi, Sydenham, Hoffman, Huxham, Heberden, and others, whose names will be forever venerated, while those of the founders of sects, the champions of theories, the advocates of this or that exclusive system, or the confident discoverers of controlling remedies, have passed away with the dreams they promulgated. Their names, at most, are sometimes referred to as a warning to those who would venture on unsafe paths, allured by the specious promises of an ardent imagination, to seek a nearer road than the toilsome path which leads to truth. These views should be impressed upon the minds of young medical men. They must be taught that there is no royal road to medical science. Labour, study, patient investigation, a determined will to work, a sincere love of truth for truth's sake, are the only means to make a true physician.

The author advocates and illustrates the numerical method, as applied by M. Louis, and which he regards as one of the most efficient means of arriving at trustworthy conclusions, and the whole of this essay is a clear and forcible exposition of the tone of mind which pervades the whole treatise.

After a chapter devoted to some preliminary observations on General Pathology, the definition and nomenclature of diseases, we have the first part of the work very properly taken up with etiology. This important branch of General Pathology has of late years been greatly elucidated by the hygienic researches of medical men, and the steps taken by some governments, national and municipal, to improve the hygienic condition of large cities and manufactories, as well as by the copious statistical and registration reports, which have afforded an immense body of facts from which important conclusions have been numerically deduced. A more thorough and minute study of the causes of disease is imperative upon the well educated physician of the present day, if he would keep up with the progress of his science, whose spirit is to study the philosophy and natural history of disease. The scientific medical man who would fulfil his mission of benevolence to society, must not only know how to recognize and treat diseases, but how to prevent them by timely advice to the members of those families who are under his charge: as a philanthropist, his usefulness is greatly increased when he is enabled not only to exert this preventive care upon individuals, but upon society at large by diffusing his knowledge. We regret that Dr. Stillé has made this part of his book so strictly elementary, and that he has confined himself almost to simple definitions. Fearing to become hypothetical, he is almost barren, and lays down only those doctrines which are so commonly admitted as to allow of no discussion. What he says is for the most part wholly unobjectionable, but not full enough to be satisfactory.

The author says: "The word cause is used in two senses. In the one it signifies that invisible power and mysterious bond which connects two successive events; not the antecedent merely of an event, but its efficient antecedent, or that without which it could not have taken place. * * *

"The other sense of the word cause is the only one which here concerns us. It has been well defined as the antecedent, or concurrence of antecedents, upon which a phenomenon is unconditionally and invariably present."

"Unfortunately, there are perhaps no causes of disease which strictly fall within this definition, for there are none, except in two or three specific maladies, which are invariably and unconditionally present. Hence it becomes necessary to regard as causes, those which are present in the large majority of instances.

"Diseases arise under circumstances so wholly dissimilar, that different, and even opposite, causes must be assigned to the same affection. That is to say, different causes appear to produce identical results; but only appear to do so. Thus, diarrhœa may follow the application of cold to the surface of the body, or the presence of some irritating substance in the bowels, or an impression upon the mind. In each case the apparent cause of the disease is different, but beyond doubt, in each also the diarrhœa may have had some common antecedent; as, for example, the sudden plenitude of the blood-vessels of the alimentary canal. But so long as this common element remains undemonstrated, it is necessary that the nearest tangible antecedent of the disease should be viewed as its cause.

"The intensity of morbid causes, the circumstances under which they act, and the condition of the individuals subjected to them, are so infinitely various, as to render it quite impossible that any great uniformity should be found in their effects. The individual who, to-day, is proof against the infection of an epidemic malady, may, by the loss of a single night's rest, become its easy victim on the morrow. Of a large number of persons exposed to the same morbid influence, no two may be affected in precisely the same way. A certain degree of heat or cold, or stimulation of any kind, may not only be well supported, but enjoyed, and yet a very slight augmentation of the same action may give rise to violent or destructive disease. Examples of a like description might be multiplied, but these suffice to show that in etiology, as in other departments of medicine, there can be nothing more than an approximation to truth. It is impossible

to predict with certainty, that a particular effect will result from the application of a given cause, and equally so to assert, which one out of all possible influences may have given rise to a particular case of disease, unless those immediately antecedent to the attack be minutely detailed.

"If, then, some portions of the ensuing remarks should appear to be vague, and less precise than the practitioner desires, let it not be forgotten that the subject is one whose propositions admit only a low degree of probability, and that this amount of proof has been still farther lessened by the very negligent and superficial manner in which medical observers have generally been content to inquire into the causes of the affections submitted to their treatment. Daily observation proves that no error is more common amongst the vulgar, than the attribution of effects to wrong causes, and that in fact, one-half of the grossest of popular superstitions spring from this source. It is no more than was to be looked for, that physicians who relied upon the testimony of their patients for ascertaining the causes of disease, should adopt, and by their writings perpetuate, the mistakes of the ignorant. The human mind instinctively demands a cause for every event, and in its eagerness to be satisfied, as readily adopts the apparent as the real explanation."—pp. 61, 62.

All this is very well, and very true, but still is no good reason why, even at the expense of a little vagueness, the inquiring student should not be taught a little more of the physiological and pathological action of such common producing causes of disease as heat, cold, moisture and dietetics, than the author has chosen to give us. Without speculating as boldly as Liebig, or asserting as confidently as Williams, even within the limits of philosophizing he has laid down for himself, he might have given a little more definite aid and information to students, who unfortunately do not always reason very logically, and sometimes not at all, upon these and similar subjects, but who are apt to be just as empirical, and to do more harm by their use and abuse of these mighty agents than in any other way.

The following paragraphs we think important enough to transcribe :

"The countries of Europe which are generally said to enjoy a temperate climate, are situated between 45° and 63° of northern latitude. Within these limits, as has been stated, the human race acquires its most perfect physical development, and all that it does is marked by energy. And so of its diseases. They are for the most part sthenic; characterized by powerful reaction, and the inflammatory type, they tolerate decidedly antiphlogistic treatment, and that not unfrequently even when they prevail epidemically. Affections of the lungs and heart, with rheumatism, are more prevalent in these than in other countries. In America the limits of the temperate region must be included between other degrees of latitude. Its southern boundary should perhaps be placed about the latitude 39° on the eastern side of the Alleghanies; and, west of the mountains, on the lower boundary of Tennessee in latitude 35°. In all of this extent, inflammatory affections prevail; nor can it be otherwise, since the vicissitudes of temperature are greater there than in any other part of Christendom. The difference between the mean temperature of the hottest and coldest months in the year, is 45° F. at Philadelphia, while it is but 31° F. at Paris.

"The extreme heat and cold of the climate of so large a portion of the United States, have probably some tendency to enervate the inhabitants, by exhausting their strength during the summer months, and habituating them to the close air of overheated rooms during the winter. The prevalent custom in our large cities, of warming houses with hot air, may, like putting plants in a conservatory, prolong the lives and increase the comforts of the delicate and sickly, but it can have no other influence on those of good constitution than to render them effeminate, and subject to all the maladies incident to a climate not only capricious, but violent in its caprices."—p. 68.

We fear that many of our modern comforts are purchased at the usual high rate paid for luxurious indulgences, weak and broken health. The close, dry, heated air of anthracite fires, the double windows, the noxious fumes

of gas, now so generally introduced in city dwellings, the precautions taken almost against the possibility of ventilation, are bad substitutes for the open wood fire, and the less artificially constructed houses of the olden time.

Our author's observations on age, sex, constitution, temperament, idiosyncrasy, &c., are all sound, but obnoxious to the objection we have already stated, that he is too brief. In every case of disease, there is not only the essential element of the disease, but also an individual or personal element impressing its peculiarities upon its march, symptoms and treatment. Now these individual elements as derived from age, sex, temperament and constitution, are but referred to and little insisted on in our practical treatises. The young medical man has but a dim perception of their importance, and naturally would refer to a work of general pathology for some full information on this head. It is a serious want at present to have the state of medical science clearly stated and systematized on this subject. In the rigid study of the exact phenomena of disease, and search after the relation between symptoms and lesions, the disease itself assumes often too much of the observer's attention as being the only thing worthy of it, while the patient's system, and its powers of influencing and modifying the march of the malady, are in danger of being overlooked. Clinical instruction and experience afford the best opportunity of acquiring this kind of knowledge, but this is not always obtainable by students, and we know of no modern book to which we can refer them for satisfactory and copious information.

The best chapter in this section of the work is that on the specific causes of disease; it is eminently clear and philosophical, divested of the technicalities and hair-splitting distinctions which often confuse beginners, as to the distinction between infectious and contagious diseases, presents fairly the present state of our knowledge upon these subjects, and is more full and elaborate than the preceding ones.

In the second part of the work, we have discussed the general phenomena, theory, and classification of diseases, general diagnosis and prognosis. The whole of this portion of the book is well written, and deserves the highest commendation, not only for the lucid and satisfactory manner in which the different subjects are defined, but for the sound philosophy which pervades it. We particularly recommend the chapters on diagnosis and prognosis to the thoughtful perusal of the young practitioner, as being replete with invaluable hints and directions. Dr. Stillé well says, in speaking of the qualities of a medical observer—

"Strange as it may seem, the fact is perfectly demonstrable, that good observers are quite as rare as good reasoners. In science, as in religion, there are many 'who having eyes, see not, and having ears, hear not.' From the beginning of time to the present day, the same material phenomena have been presented to the senses, but in medicine, with comparatively little profit, until a recent date. This stationary, or even retrograde, condition of medicine is attributable, as was explained in the Introductory Essay, to erroneous views entertained respecting science in general, and particularly medical science. An inferior value has been attached to observation, as a means of discovering truth; and consequently, the partial observations actually made, were generally conducted without method, and in a spirit wholly opposed to sound philosophy. It was reserved to modern times to lay anew, and with imperishable materials, the foundations of medical science; and if the labourers in this work have frequently employed the stones belonging to the old edifice, they have dressed them over again,—laid them with a more accurate line and rule, and united them with a far stronger cement."—p. 163.

The directions for investigating a case of disease, and the mode of recording and generalizing medical cases, as laid down by our author, are

admirable, and described so plainly and minutely, that they may be safely taken as a model by whoever wishes to train himself as an observer. Educated himself under the lessons of M. Louis, that prince of observers, Dr. Stillé has drunk deeply of his method and spirit, which he has developed in these chapters with such clearness and comprehensiveness as to enable all who will, to comprehend and follow. The description of the different modes of physical examination which follows, is equally full and explicit, and contains much valuable information of a practical kind. In speaking of auscultatory percussion, as recommended in 1840, by Drs. Cammann and Clarke, of New York, Dr. Stillé says,—“We were lately assured by one of its inventors, that it continues to be practised by them with success; but it does not appear to have been extensively employed as a means of physical diagnosis, because simple percussion has been found so generally sufficient, that pains have not been taken to test the value of the proposed substitute.” The neglect of this valuable means of diagnosis, which does so much credit to native research, is unfortunately too true; but surely it is not because simple percussion is a sufficient substitute. It is as much the complement of mediate percussion, as this latter is of direct: it extends and widens the field of its application; gives to it, in many cases, a precision that it alone is insusceptible of, and may be applied successfully in many others of differential diagnosis, where ordinary percussion is wholly insufficient. During the last eight years, we have been in the habit of constantly resorting to this method, in a large hospital practice, with the most satisfactory results; estimating the size of the heart, even when covered with the borders of an emphysematous lung; determining the line of separation between two solid organs, pressing against one another—as, for instance, a scirrhus tumour of the stomach pressing against an enlarged liver;—a large cancerous kidney adherent to, and continuous with, the lower edge of the liver, so that from the palpitation of the abdomen, the tumour had been taken for one occupying the liver, but where the error was at once detected, by using this mode of percussion. The most frequent and useful application of this mode of exploration is in compound fractures of the bones, where applying the stethoscope on one part of the bone, and percussing along its shaft, the exact point and direction of the fracture at once becomes evident the moment the finger reaches the seat of the lesion of continuity. This is done without inflicting pain on the patient, by handling the limb to ascertain the presence of crepitation, or subjecting him to the chances of increased inflammation, from laceration of the parts by the spiculæ of bones. A little practice will soon enable any one, whose ear has been already educated to appreciate the phenomena of auscultation, to avail himself of this valuable addition to our means of diagnosis, which seems not to be recognized on the other side of the Atlantic, and to be but little esteemed here because it has not a foreign descent to give it some *prestige*.

The third, and most bulky portion of the work, is devoted to semeiology; and here, perhaps, our author is seen to the greatest advantage, for this division of his treatise is not only very full and complete, but the characteristics of both his mind and style being precision and accuracy, his definitions and explanations are so lucid, that they leave little to be desired. They are, moreover, mingled with so little hypothetical explanation, that they are on this account particularly adapted to the student, who wants, as his elementary foundation, what is known and established, because he is not yet prepared, either from knowledge or observation, to judge for him-

self of the probable truth of the ingenious suggestions and plausible explanations with which these subjects are often decorated. Our author's distinction between signs and symptoms—a distinction puzzling to many beginners—may serve as an illustration of the precision we speak of.

"Semeiology is that part of pathology which treats of the *signs* of disease. It differs from symptomatology, which treats only of *symptoms* in the abstract. The terms sign and symptom are very commonly, but erroneously, employed by medical writers as synonymous. This leads, as do most other inaccuracies of language, to a misconception of things, to confounding together an actual phenomenon and an operation of the mind, and presents a clear apprehension of the place which symptoms should occupy in the investigation of disease. Before entering, therefore, upon the department of semeiology, it is proper that the meaning of the terms just mentioned should be strictly defined.

The phenomena of disease are symptoms. All that instructs us in regard to what is hidden or obscure, in the past, present, or future state of a disease, is a sign. *Signum est id quo cognito alterius ignoti notitiam inducit*, is the definition of Galen. Hence, every symptom may become a sign, but every sign is not a symptom. A quarter-dollar may be described by enumerating its colour, specific gravity, &c.; these, its qualities, are to it, what symptoms are to a disease. But if the white colour and weight of the coin be employed to distinguish it from a half-eagle, which it resembles in form and impression, and its value in cents is declared as indicating what it will bring, the colour, weight, and numerical value become so many signs; diagnostic signs distinguishing the piece of money from another one, prognostic signs determining how much food or other commodity a tradesman will give in exchange for it. Symptoms, therefore, are converted into signs by the mental act of the observer. A patient may be more familiar with the symptoms of his complaint than the physician: he is unable to learn what they signify. This it is the physician's province to do, and this he must do, as a preliminary step to any rational judgment in regard to the nature of the disease, or the treatment which it calls for."—p. 214.

"Again, it is customary to speak of functional phenomena only as symptoms, and of those revealed by physical exploration as signs, as if the latter were *par excellence* significant. Besides being, as already shown, an abuse of language, such a phraseology is founded on a purely arbitrary division. For it surely constitutes no essential difference between two phenomena, that one is perceived by the sense of hearing and the other by that of sight. A pulmonary rhonchus is appreciated by the senses neither more nor less than paleness or emaciation. No one denies that the character of the pulse is a symptom, yet this is quite as much a physical phenomenon as the dullness of the chest in pleurisy; and it is perceived by the very same sense, that of touch, which measures the size, and estimates the consistence of an abdominal tumour. The only difference is that the last two phenomena are supposed to require a more careful, prolonged, and difficult examination than the first."—p. 215.

Nearly one hundred pages are taken up with an admirable description of the signs furnished by the circulatory and respiratory apparatus, giving ample evidence that the author is deeply versed in the use of these invaluable means of diagnosis, which form one of the greatest achievements of modern medicine. His description of these signs is at once so full and clear as to make it all sufficient as a text-book on these subjects. We next have a novel explanation of the cause of the impulse of the heart, which is dwelt upon at some length, and ably sustained by an array of both physiological experiments and pathological facts, which appear to us very satisfactory. This explanation enables us to account for a fact we recently observed, where there was very considerable hypertrophy of the ventricles, without any increased impulse. Similar absence of increased impulse we have met with before, but not having written down at the time the condition of the auricles, we cannot trust sufficiently to our memory to appeal to them.

This explanation differs from the generally received opinions upon this subject; and as we regard it a matter of great importance, we shall let the author speak for himself.

"What now gives rise to this impulse? The more generally received opinion is that of the party maintaining the diastole of the ventricle to be slow and gradual, and is that the impulse is due to the shock of the apex of the heart against the parietes of the thorax, during the systole of the ventricle, and to this cause alone. The doctrine which appears to be most strictly in accordance with facts is, that the cause of the impulse is the diastole of the ventricles, its force being proportioned to the power with which the auricle propels its contents into the ventricle. Independently of all experiment, it would be difficult to comprehend how the contraction of a hollow muscle could have any other effect than to diminish its volume, or that it could while contracting give a blow to a body external to itself. But vivisections of cold-blooded animals confirm the justice of this objection to the received doctrine. When the heart of a frog, which is transparent, is examined, the apex is seen to be thrust forward at the same instant that all the dimensions of the organ are enlarged, and its colour shows it to be distended with blood, while the apex is retracted simultaneously with the lessening of the size, and the disappearance of the colour of the heart. In other words, the projection of the apex corresponds with the diastole, and its retraction with the systole of the ventricle. Certain cases of malformation go to confirm this view. One such is reported by Cruveilhier, to this effect. A child was born with a deficiency in the upper part of the sternum, through which the heart projected. It lived nine hours. In this case the contraction of the auricles was exactly synchronous with the dilatation of the ventricles. During the ventricular systole, the heart contracted in *every* diameter, and no part of it was thrust forward except the apex, and that only with a slow, spiral motion. The ventricular diastole, on the other hand, 'had the rapidity and energy of an active movement triumphing over pressure made upon the organ, so that the hand closed upon it was opened with violence.' This movement was accompanied with a strongly marked projection of the heart downwards. The rapidity, energy, and direction of the ventricular diastole here observed, demonstrate this movement to be the cause of the cardiac impulse. Very similar phenomena were presented in an analogous case reported by Dr. Robinson, of Petersburg, Va., in 1833; and both cases, it is plain, are confirmatory of the results obtained by vivisections of cold-blooded animals. The combined evidence thus very summarily and imperfectly produced, warrants, it is believed, the conclusion, that actual inspection of the movements of the heart, when made under favourable circumstances, teaches that the *impulse is synchronous with, and caused by, the diastole of the ventricles.*

"There is another proof of the same proposition derived from considering what takes place in hypertrophy of the ventricles. It is commonly taught that hypertrophy of the heart is accompanied with augmented impulse. Laennec, Corvisart, and nearly every writer upon diseases of the heart, and upon the application of physical methods to their examination, affirm it; and Dr. Latham goes so far as to say that 'hypertrophy cannot exist without excess of impulse.' One would suppose that such uniformity of doctrine could only result from great clearness and constancy in the evidence of facts; that it was a legitimate induction from many well-observed cases of hypertrophy. And yet it is no more than a deduction from an imperfect theory; the testimony of observation is directly adverse to its truth. Indeed, several observers have pointed out the fact, without succeeding in explaining it, that the impulse is not always proportioned to the degree of hypertrophy. Thus, Dr. Pennock, in his valuable edition of Hope, says 'that hypertrophied hearts do not always beat with the force that might have been anticipated.' Dr. Corrigan of Dublin, in analyzing a number of cases of ventricular hypertrophy, declares that 'in all of them the impulse of the heart was *less* than natural, and in some could not be felt at all.' Andral asserts that 'the impulse is not necessarily increased in every case of hypertrophy; and that in some cases of concentric hypertrophy, there is no perceptible impulse.' Chomel in like manner informs us 'that patients are not unfrequently met with, in whom the heart has become uncommonly developed from hypertrophy and dilatation of its cavities, and yet

without the energy of its impulse being increased, and even with a positive decrease of its normal force.' These citations might be multiplied, and confirmed by the analysis of cases of ventricular hypertrophy; but they suffice to show that if, as a general rule, increased development of the ventricle co-exists with an augmented impulse of the heart, this coincidence is far from being uniform.

"Now, from what does this discrepancy arise? How does it happen that hypertrophy of the ventricle is sometimes accompanied with diminished, and sometimes with augmented, impulse? It evidently cannot be explained upon the supposition that the impulse is due to the systole of the ventricle, and proportioned to the muscular power of its walls; and it must remain inexplicable so long as this theory of the impulse is adhered to. But if, laying theories aside, we compare any number of cases of cardiac hypertrophy, showing increased impulse, with another series in which the impulse is diminished, we arrive at a curious result, viz: that in every one of the former class of cases, there is *auricular* hypertrophy, either alone or in combination with a like state of the left ventricle; and that where the impulse is not augmented, or feebler than natural, there are either dilatation and thinning of the auricle, or the hypertrophy is altogether confined to the ventricle; in one word, we find that *permanently augmented impulse of the heart coincides with auricular hypertrophy.*

"A further confirmation of this proposition is derived from the following pathological fact. It is well known that, under several circumstances, the pulsations of the heart do not agree in number with those of the arteries; that two or three of the former may be felt for one of the latter. Now, if the impulse of the heart were owing to its systole, the cardiac and arterial pulses should coincide exactly, since the heart cannot contract without throwing some blood into the arteries, and producing a pulse in them; but as there may be several cardiac impulses felt, for one that is arterial, it is plain that the prevalent theory is at fault, while that which has been proposed in the foregoing remarks furnishes an adequate solution of the difficulty. The want of correspondence between the cardiac and arterial pulse is observed chiefly in two cases; first, when the heart is feeble; and secondly, when its mitral orifice is obstructed. In both cases a smaller quantity of blood than natural is at first thrown from the auricle into the ventricle, a quantity insufficient to distend the latter cavity, or to stimulate it to contract; at each contraction of the auricle, the ventricle is partially filled, and each time strikes against the ribs; but its own systole does not take place until its repletion is accomplished.

"If, then, it may be regarded as proven that there is a constant connection between augmented cardiac impulse and *auricular* hypertrophy, on the one hand, and between this hypertrophy and the energy of the ventricular diastole on the other,—and further, that the cardiac impulse is synchronous with the ventricular diastole—the conclusion is irresistible that *the impulse of the heart is caused by the diastole of the ventricle, and proportioned to the muscular power of the auricle.*"—pp. 319, 320-321.

The fourth, and last part of the work is devoted to general morbid anatomy, and exhibits the same amount of knowledge, research, and just discrimination on the part of the author that we have remarked elsewhere. He writes as one who has seen much, and is perfectly conversant with his subject in all its bearings. The directions in the second chapter on the mode of conducting post-mortem examinations, will be found invaluable by many who have not been in the habit of making such investigations. The author may well lament the almost total neglect of the subject of morbid anatomy in many of the principal schools of the United States. Many of these schools have no hospital attached to them to afford cases for examination. The bodies brought into the dissecting-rooms are used almost exclusively for the purposes of special anatomy, and very rarely can a history of the disease of which they died be obtained. The subject is taught as a distinct branch but in few. Bodies are occasionally "opened" in private practice, but for the most part by those who are so little conversant with morbid appearances, that they have little conception of what

constitutes a healthy and what a diseased condition of the different tissues; who are unable to discriminate between the appearances which indicate inflammation, and those of simple hypostatic congestion. We have ourselves seen, within the last few years, a physician, having charge of a large hospital, open the abdomen in a case of fever, and from the simple inspection of the peritoneal face of the intestines, because they did not look particularly discolored, pronounce the alimentary canal perfectly healthy. Dr. Stillé too truly says:—

“When these examinations are made, it is too commonly the fashion to proceed at once to the presumed seat of the disease, and having detected a supposed sufficient cause, to abandon further dissection as useless. It may safely be said, that, if anatomists in general had contented themselves with such superficial inquiries, the science of morbid anatomy would not yet exist, and that so long as it is thus slightly prosecuted, we must be content to hold a very subordinate rank in the medical republic. The cultivation of this department demands unusual devotion, enthusiasm, and perseverance; private practitioners can do little more than contribute an occasional addition to its stores, which must be mainly enriched by physicians attached to public institutions. Even these, if they have not been taught by a competent instructor, must grope long in obscurity, seeing without understanding, and describing much erroneously or imperfectly, and be content, also, to devote many hours of severe and disgusting labour, to obtain a very moderate degree of proficiency.”—p. 412.

This part of the book presents a compendious and admirable *résumé* of the different changes produced by disease in the normal constituents of the body, as well fluid as solid. The subject is well treated, presented with great clearness, and in such a form that the young aspirant for knowledge may readily gather from it enough of the important elements of morbid anatomy to go on and study special pathology with advantage. Speaking of the morbid changes of the blood, which are again of late years attracting so much attention, and assuming so prominent a place in the explanation of many diseased processes, the author admirably points out the wide difference between the modern and ancient humoral pathology.

“It is not uncommon for writers of the present day to speak of the importance now attached to the morbid states of the animal fluids, as indicative of a return to the old humoral pathology; but, in doing so, they confound things essentially different. The humoral pathology adopted in the Hippocratic writings, and servilely followed in succeeding ages, was a pure hypothesis, which, as was stated in another place, assumed that the body was composed of four humours, whose various combinations produced diseases. These combinations were, at the commencement of the seventeenth century, estimated by Sanctorius at eighty thousand! In the last century or two, much indeed was said of the acridity and putridity of the blood, and some imperfect notices of the physical changes occurring in that fluid, were recorded. But there is little analogy between the views now entertained, concerning the influence of the blood in disease, and those speculative notions which ruled so long in medicine. The ancients not only imagined the humours, but also their qualities and effects. With inquirers of the present day, the subject is simply one of observation, experiment, and induction. If here and there a medical chemist, impelled by the force of genius, and elated by the wonderful results of his favourite science, overleaps the bounds of legitimate reasoning, and wanders in the trackless field of speculation, but few among the more eminent pathologists are tempted to follow his erratic course. The soundest thinkers receive his revelations with distrust. There is, in fact, a general unwillingness to adopt them as settled principles, until they have been tested by men of large experience in studying and treating disease; by men who regard the animal economy as something more than a machine, and the stomach as something different from a chemical retort; who recognize in it a vital chemistry, and vital dynamics, governed

by other laws than prevail amongst the instruments of the laboratory and the workshop."—p. 420.

We have thus briefly glanced at the contents of this treatise, destined by its author more particularly for the use of students, and we can most conscientiously recommend it as in every way deserving not only their attention, but also that of the profession at large. It is a real and valuable addition to our medical literature; conceived and executed in the best spirit of medical philosophy, inculcating facts that are known and proven, with scarce any admixture of doubtful hypothesis, and therefore a safe and proper book to place in the hands of a student. The larger work of Chomel which has lately been made available to the profession through the translation of Drs. Oliver and Morland is better adapted to the more advanced practitioner; while the *Principles of Medicine*, by Williams, with all its merit and originality, mixes up so much of speculation with facts, that its true value can be appreciated by him alone who has read and seen much for himself.

We are happy, also, to have it in our power to speak thus highly of an *original* American book. Of translations, republications, and compilations, we have an abundance; but it is with a prouder feeling that we receive a sterling native production like the present, and point to it as proof that our country contains sound and accomplished physicians, imbued with a true notion of the importance of their science, and competent to produce works which are really ornaments to medical literature.

ART. XV.—*Principles and Practice of Surgery*. By the late GEORGE M'CLELLAN, M. D. Edited by his son, JOHN H. B. M'CLELLAN, M. D. Philadelphia, 1848. 8vo. pp. 432.

It is somewhat remarkable that, with our liberal supply of medical schools, our numerous corps of able teachers, our crowds of students in constant need of text-books, and our thousands of practitioners in daily need of books of reference, we are yet so deficient in systematic works, especially in the department of surgery, by the writers of our own country. America has produced many erudite, investigating, and practical surgeons; and our periodical literature alone, not to speak of detached essays, monographs, memoirs, and reports, is sufficient to show that, amongst us, surgery has been successfully cultivated as a science, as well as practiced as an art; and yet, up to the present moment, leaving out the valuable compends of Dorsey and of Gibson, we can point to no great and comprehensive exposition of the principles and practice of surgery by an American.

The work before us does not supply this deficiency. Its author may possibly have contemplated, with the view of some day fulfilling, this commendable undertaking. But his hand, alas! has been arrested! He has been suddenly cut off in the midst of his career. The present publication is but a fragment of what he had projected; and even this appears to have been left unfinished, and to have required shaping and retouching to prepare it for the press. His son, the editor, thus speaks of it:—

"As if forewarned by some undefinable impulse, that he might not be spared to carry out his entire object, he seemed bent upon hastily finishing what was

meant to be the first volume, and its earlier pages were actually passing through the hands of the printer, whilst he was endeavouring to complete it. Suddenly cut off in the midst of these labours, the whole manuscript was left in much confusion, and many of the subjects in its latter part were incomplete. With little clue to his intentions, other than the knowledge of his opinions, derived from some years of daily practice and observation with him, I have endeavoured to complete all that was left unfinished, in strict accordance with his peculiar views. Preferring to leave everything as nearly as possible as it came from his hands. I have not felt myself justified in interfering with the distribution or division of the different subjects."—P. viii.

How far the printing of the work had progressed at the period of the author's death, and what has been the extent of editorial additions or alterations, we have not the means of knowing. The editor's initials are first met with at page 330; but he elsewhere informs us that he has affixed his own mark only to such of the notes as are not intimately connected with the text. And these, as he states, relate chiefly to important operations by the author, "which it seemed due to his professional memory should be mentioned," and which, with others still unpublished, he promises, at some future day, to furnish in detail. He is not without hope that, with these and "a vivid recollection" of his father's opinions, he shall be able "to carry out the work to the extent originally contemplated."

The opening sentence of the author's preface is in keeping with what we have often heard of his character and habits as a practical man. He comes to his point at once; and whatever we may think of its temper, we must, at least, allow that it is strongly tinged with common sense. "I have always believed," says he, "that no inexperienced man ought to be suffered to write a book on medicine or surgery."—(p. ix.)

The spirit of the remark is just, though strongly in contrast with the usages and customs of our modern literary democracy. It expresses, too, more than we detect upon the face of it; and is not without wit. For it is, at once, a distinct announcement of the author's title to our attention; and an assurance that, in things pertaining to medicine and surgery, we are about to deal with one who can speak with some authority.

We have also heard it said, that "no one should presume to appear in print who has nothing new to communicate." There are, however, some good books which the profession would not willingly suppress, although written by men of but little personal experience. And there are others, not a few, equally good, the present among the number, which are made up, for the most part, of thoughts and opinions with which the profession had previously been sufficiently familiar, and which are as readily recognized and referred to their original sources as one could recognize an old acquaintance in a new association, or in a new dress.

While, then, we agree with the lamented author of the volume before us that "the world is already too full of useless publications, successively copied from one another," we are still disposed to leave literary exertion, like every other department of honest enterprise, to take its own course, believing that most of such publications are about as harmless as they are useless—that the publisher's announcement is usually the last that is heard of them—and that the principal, if not the only evil resulting from them, is their draught upon the pockets of those who are engaged in their production.

The field of surgery is, at the present day, an extensive one: no man can hope to be so familiar with it, or to explore it so thoroughly in every part, by his own unaided energies and opportunities, as to be in no need

of calling upon others to aid him in describing it. The merits of a treatise on the principles and practice of surgery, then, consist not so much in attempts at originality as in a comprehensive and masterly exposition of so much of the general doctrines of medical philosophy as bear directly upon it; in a judicious, clear, full, exact, and orderly detail of the subjects embraced in it; and in an unbiased statement of the arguments, facts, and opinions upon which its most approved generalizations and practices are founded. The author's illustrations and manner of disposing of his materials, rather than the principles upon which he treats, should, as far as possible, be drawn from his own resources; his judgment should be sufficiently quickened and matured by experience to guard him against hastily adopting or rejecting the views of other men; his love of truth should be paramount to all other considerations; and he should be continually on the watch against prejudice, egotism, and hypothesis, both in advancing his own observations and in citing those of other individuals.

With these general views as to the merits of a treatise on surgery, we are not disposed to find fault with the author of the present work, that, in its production, he has not drawn exclusively upon himself. While treating on the disturbances of the nervous system, he, perhaps, could not have done better, in the present state of our knowledge, than to adopt the opinions of Dr. Marshall Hall. In speaking on inflammation he could hardly get on without referring to John Hunter, or to the followers and disciples of that great man, or even to the chemists and microscopists of the present day. We have nothing to complain of that, in treating on the venereal diseases, he has thought proper to adopt the general views of Mr. Carmichael, whatever we may think of these ourselves; and we are not certain that we should demur very loudly at the free use he has made of the *Pathological Anatomy* of Vögel, in the latter part of his book. But we are advocates of consistency, and do not clearly see why an author of great experience, who draws his opinions from the common stock of the profession, should denounce all writers of moderate experience who only do the same thing.

Dr. M'Clellan, indeed, appears to have had some scruples of this sort on his own account, and to have seen how much easier it is to lay down rules than to follow them. For, says he, "my present situation before the public is somewhat of an exception to my own rule."—(p. ix.) While shunning the character of a compiler, he is hardly prepared to appear as an originator; and, consequently, he is willing, from the start, to associate with the legion of reputable writers who modestly assure us that the position they assume is forced upon them, and not of their own choosing; and that they are compelled to appear in print either by the urgent solicitations of their friends, to whose judgment and wishes they are ever more ready to yield than to their own, or by the love and affection they bear to their pupils, or to those who have been their pupils, and who will no longer take "no" for a refusal.

"I have now arrived at that period of life which I always thought entitled an educated and observing man to be heard; and my old friends and former pupils will give me no further indulgence in the way of resisting these demands. They all claim of me the published reports of my extemporaneous lectures, delivered years ago, during successive winters, in the Jefferson and Pennsylvania Colleges of this city. Some of my most attentive hearers have drawn up abstracts for me, and kindly threaten to print a volume of such matter if I do not gratify them by filling up the manuscript blanks with my own corrections and additions, as I can best recollect how they were originally delivered." "I have been obliged, there-

fore, to shut myself up occasionally from the world, at least for an hour or two at a time, and reproduce my former train of ideas and facts, as I was in the habit of giving them extemporaneously in the lecture-room."—p. ix-x.

The book, however, is not a book of lectures, nor prepared in lecture form. A very considerable portion of it—one-fourth, at least—could hardly have been delivered in the lecture-room at all, having been mostly made up for the occasion, and prepared, to use the author's own expression, "*currente calamo*." "One idea," says he, "has necessarily grown upon the top of another, until I have in this manner rapidly accumulated the outlines of my views and experience on the principles and practice of surgery."—(p. x.)

The first peculiarity that attracts attention in the body of the work is a want of the customary subdivision of the principal subjects of discourse into chapters and smaller sections. The headings are but few, without numerical arrangement, and not always sufficiently clear to distinguish the main topics under consideration from the minor ones involved in them.

The first ninety pages are occupied in considering the immediate effects of injuries upon the system. In this the author treats, first, of disturbances of the nervous system, under the several heads of shock, reaction, constitutional irritation; and, secondly, of disturbances of the vascular system, in which he speaks of inflammation, with its various concomitants, complications, and consequences.

The next hundred and thirty pages are taken up with a series of special subjects—erysipelas, furunculus, anthrax, abscesses, ulcers, burns and scalds, the effects of cold, and wounds, with their complications, among which are included hemorrhage, tetanus, hydrophobia, and poisoned wounds.

The following seventy-eight pages are devoted to Venereal Diseases; and the remaining portion of the volume, about one hundred and twenty pages, is employed in the description of Morbid Growths, including Tumours and all other Morbid Deposits, benign and malignant.

It is not our object, on the present occasion, to attempt either a minute analysis, or critical examination of statements and opinions in the work before us; with nearly the whole of which the profession are already sufficiently familiar. We can notice only a few of the more prominent passages: and in our selection of these, we hope to be guided more by the desire of exhibiting the general merits of the book, than by any wish to hold up a few objectionable passages to criticism or comment. We are the more disposed to adopt this course from the consideration, that the work is, in part at least, a posthumous publication; and that in its present form it may be looked upon as much in the light of a memorial to be hereafter cherished by the professional friends and acquaintances of its author on his own account, as in the light of a contribution to the surgical literature of the day.

The immediate Effects of Injuries.—Dr. M'Clellan begins the consideration of this subject by intimating that surgical writers have hitherto dwelt on inflammation too much to the exclusion of other almost equally prominent circumstances. Every individual tissue, he remarks, has its peculiar mode of action, and presents its corresponding modifications of disease. "The lower orders of the animal creation, like vegetables, appear to be insusceptible to inflammatory processes," and the actions of the human frame can be greatly disturbed, independent of any of the stages of inflammation. "The more immediate effects of injuries, and all other influences

which produce similar results upon the animal fabric," he infers, "are unquestionably communicated through the nervous system." (p. 13.)

With these opinions, particularly the last of them, we are not disposed to cavil. But we may remark, that the effects of injuries upon the nervous system have not been overlooked by previous writers; and that one important reason for their not having been hitherto satisfactorily illustrated, is owing to the very significant fact that we know so little about them. The true physiology, as well as the pathological actions and relations, of the nervous system, has yet to be explored. And, notwithstanding the jargon of learned words in which the subject has been of late involved, many of which appear to have been recently adopted from the geometers, we are yet as much in the dark in respect to the functions of the nervous system, as our professional ancestors were, in the days of Galen, or at any other period prior to the times of Harvey and Servetus, in regard to the circulation of the blood.

How far the lower orders of the animal kingdom are insusceptible to inflammation, as intimated above, we are not prepared to say. We are not without some evidence that even in the vegetable kingdom something analogous to the reparative processes of real inflammation does now and then occur. The common leech does not range high in the animal kingdom; and yet we have ourselves watched it for weeks together, after an injury, manifesting many of the phenomena that are usually said to depend upon, or result from, inflammation; namely, rigidity, with loss of retractile power, swelling, discoloration, gangrene, sloughing, the line of demarkation, the ulcerative process, and final cicatrization.

Shock.—Dr. M'Clellan commences the consideration of this subject by an exposition of certain nervous actions and influences in accordance with the views of Marshall Hall. He then proceeds to speak of shock, as either partial or general. His account of these two varieties is succinct, and to the purpose; and the course of treatment which he points out for their management, is such as is generally adopted. We would add to his suggestions a word or two of caution against disturbing patients too much, especially in attempting to remove them in a hurry, or to a great distance, immediately after the receipt of severe injuries. Much harm is at times effected in this way, especially in cold and inclement weather. When the patient is at a distance from his home at the time of the accident, the rule should be, to place him under as comfortable circumstances as possible, at some place near by; in which he may have the benefit of seclusion, pure air, and proper attendance, until reaction is so far established as to admit of his safe removal either to his home, or to the infirmary at which he is to be subsequently treated.

The following passage we find in the form of a note. But the practical observer will recognize its truthfulness, and be, perhaps, disposed to give it as much consideration as if constituting a portion of the text.

"It is a singular fact that more patients recover after reaction from a complete and overwhelming concussion of the whole nervous system immediately following an injury, than after some of the apparently more moderate forms of shock. When the syncope is not complete, the mind being conscious of impressions, although torpid and incoherent, and the pulse hurried and tremulous, with the respiration sighing, and the discharges involuntary, after a terrible injury, the forces are almost sure to run down in a very short time, without any subsequent effort at reaction. In some such cases the symptoms of disturbance are so slight at first as hardly to be appreciated, and as the forces are afterwards worn down by the actions consuming the excitability, a final condition of prostration super-

venes, which has been called secondary shock. I once saw a poor fellow, whose leg was crushed on one side up to the knee, and on the other up to the trochanter, and one arm also up to the middle of the humerus, by the wheels of a railroad train. He lost but very little blood, and did not sink into complete syncope for almost an hour after the occurrence, of which he died in about another hour. In the meantime he was possessed of mind enough to tell me of his birth-place in Germany, his friends and his property, and to express his wishes about messages to be sent to his home."—p. 16.

Under the head of *Insidious Shock*, Dr. McClellan speaks of a class of cases well worthy of special attention. We here also recognize the force of his description, though, on this point, he is in some respects rather rhetorical than exact.

"In some very severe cases of injury a peculiar kind of shock is given to the nervous system, which is too little known by our profession. The patient may be somewhat agitated and confused at first, but presently complains of little or nothing. He suffers no pain or inconvenience of any kind, and is hardly willing to have the attention of a surgeon directed to his wound. The pulse and respiration remain undisturbed; and the bystanders apprehend no danger from the appearances. Inexperienced medical attendants take no alarm, and perhaps every one prognosticates favourably. But the case looks altogether too well for one of such magnitude. A great joint has been torn open, a terrible compound fracture is present, or several of the large muscles and nerves have been lacerated, and yet no corresponding disturbance is manifested.* The skin continues cool and transpiring; the tongue clean; and the secretions natural. Such cases may be compared to those which occur in the outbreak of a yellow fever and other malignant epidemics. Patients will then be seen walking about, and perhaps attending to their regular duties, until the very moment when they drop down and die."—p. 17.

"The only symptom, in addition to the above detail of circumstances, upon which an intelligent surgeon can depend in the diagnosis of this kind of shock, is a semeiological one. The countenance of the patient is altogether unnatural. It presents an inquiring, anxious look about the forehead, eyes, and upper portions of the face, while all about the mouth and lips is smiling and composed. It resembles the mixed sad and cheerful expression which our great novelist, Dr. Bird, has attributed to Montezuma in his captivity, and by which some authors have attempted to characterize the whole of our aboriginal race—a melancholy smile about the lips, indicative of their fatal proclivity to destruction. There is another circumstance about the expression of the countenance, which will strike an intelligent observer. When you first approach the bedside, the patient will look up at you with a stare of alarm and suspicion; and he will repeat this expression constantly as often as you approach him to make any inquiry. No matter how long you remain in the room, whenever you attract his attention, his forehead will be drawn up, and his brows contracted into a scowl of suspicion, mingled with anxiety.

"If these patients do not always die, certainly every practitioner should be cautious in giving a favourable prognosis. The probability is, that not more than one in a hundred can possibly recover; and we may put down this as the most dangerous kind of shock."—pp. 18, 19.

The subject is further illustrated by the recital of a case. It appears to have been a favourite theme with our author; for, he again takes it up, with reference to cases, while treating on the subject of Wounds, considerably farther on in the volume.

Reaction.—After alluding to that mild degree of reaction which, in healthy constitutions, and after injuries of moderate severity, soon subsides without much active interference, our author proceeds to speak of reaction of a severer grade:

* As Hunter observed—"Nature requires to feel the injury."

"But after an interval of prostration from a shock, and especially, when any tissue or organ has been predisposed to disease from previous morbid or debilitating influences, injurious results are apt to follow the reaction. The sudden increase of excitement throws the blood, and perhaps the principle of innervation, too severely upon the debilitated parts. Vascular engorgement, vital, or functional disturbance, irritation, and finally inflammation, may all successively arise from this cause.

"There is another circumstance which should be adverted to in our speculations upon this point. During the stage of torpor or depression from a shock, the power of being acted on by stimulants (the excitability of Brown) is increased often to a morbid degree; so that the influence even of the natural stimuli of life becomes subsequently the cause of diseased excitement. This latter condition, indeed, constitutes the very essence of local irritation, and also of morbid irritability, which latter condition becomes the foundation of what modern surgeons have so much dreaded under the name of constitutional irritation.

"In our management of cases of reaction, it is obvious that care should be taken not to allow the procedure to run too high, or continue for too long a period. Direct depletion, however, can rarely be necessary, except in very full habits, and during very violent excitement. There is always some risk of sudden depletion being followed by a repetition of the prostration, or with what we shall subsequently have occasion to notice under the head of irritative excitement dependent on loss of power to sustain itself. In general, sponging with cool water, fresh air, and a moderate elevation of the head, will sufficiently subdue the excitement following reactions of every kind."—pp. 19, 20.

Irritation.—This term, as employed in pathology, has always been sufficiently vague. We cannot find fault with our author for not having succeeded better than his predecessors, in furnishing us with a clear account of what is meant by it.

"It is generally believed by the profession that irritation consists, in all these cases, in a mere derangement of the principle of innervation, totally unaccompanied by vascular excitement. It must be conceded, however, that the ingress of blood into the vessels of a morbidly irritable part, is one of the means of rousing this irritability into action. The natural excitability being altered as well as increased after the reaction from an injury, all the ordinary excitants, even of health, become productive of diseased actions."

"Irritation occurs before the access of inflammation, and may continue for a long period totally uncomplicated with it. If vascular turgescence, however, be allowed to arise in the same part, and continue there, that morbid condition of the blood-vessels which is termed inflammation will certainly be developed. The irritation does not terminate at the access of inflammation following under such circumstances; but the degree in which it is complicated with the inflammation, modifies the character and violence of the latter disease accordingly."—p. 23.

The phenomena of irritation must vary with the peculiarities of the structure and function of the parts, or organs involved in it. And in order to consider these modifications in the phenomena of irritation, our author proceeds to speak of them at considerable length, under the several heads of Irritation of the Brain, Irritation of the Urinary Organs, of the Stomach, of the Liver, of the Heart; and, finally, of Irritation of the Nerves, as affecting the body generally.

He is not disposed to believe with Cullen and others, "that the irritation which produces spasm of any kind, must be founded on debility. Spasm," he observes, "may occur in strong as well as in weak muscles—in vigorous and plethoric, as well as in weak and emaciated persons; and, in many respects, they may be associated under the same considerations as pain. Pain, indeed, has been pronounced to be a spasm of a sensitive part. It is the evidence of an irritation in one of the nerves of common sensibility; while spasm is indicative of a similar irritation in one of the

muscular nerves of the spine. Irritations of the nerves of special sense," he continues, "do not produce pain, but simply disturbance of function; and so also of the nerves of the whole sympathetic system."

"When a plethoric or active state of the circulation exists in company with a flushed countenance and warm skin, antiphlogistic remedies, in some shape, will always be proper, at least as preliminary treatment, for each kind of these irritations. When the face is pale, and the skin is cool, and the circulation not excited, opiates or narcotics of some kind are always resorted to by the profession, and sometimes in enormous doses, for both conditions. In both it is equally necessary to obviate all the causes of irritation in every part of the system. Emetics and purgatives are resorted to for the purpose of relieving the injurious influences of deranged *primæ viæ*; and attention to the state of the bladder, of the heart, and of the brain, is enforced whenever their condition may be supposed to influence either pains or spasms.

"These affections may be further compared in various respects. They equally tend to the destruction of life, when developed to excess. Extreme pain or spasm will abolish the vital forces, either by operating with sudden intensity, as secondary causes of shock, or by exhausting them from frequent repetition. In milder degrees they indicate more or less favourable results, according to the circumstances under which they occur. We apprehend no danger from them when accompanying reaction to a moderate extent, or when the system is not sinking from other causes. We can always obviate such conditions by anodynes, if the measures which we have resorted to for relieving the other causes of disturbance do not immediately succeed. In cases where there is no pain or spasm, under circumstances where these ought to occur, we have equal reason to fear that the system is not able to resent the effects of the injury. If the relaxing effects of undue hemorrhage have not been the cause of this, we of course apprehend all the dangers of an insidious shock."—p. 35.

Passing on from Injuries of the Nervous Apparatus, our author next speaks of the *Effects of Injuries upon the Blood-vessels*, or, in other words, of

Inflammation.—In this connection we have a sufficiently clear account of the general doctrines and phenomena of Inflammation,—of Redness, Heat, Swelling, and Pain; of the Extension of Inflammation, Inflammatory changes of the Blood, Inflammatory Fever and its Treatment, Suppuration, Ulceration, Granulation, Cicatrization, Hectic Fever, Irritative Fever, and Mortification. Our author is quite at home on these topics; which, however, furnish little, or nothing, upon which we can at present afford to dwell. That experience of which he has spoken in his preface, has, we fear, had not much to do in helping him to his remarks on *microscopic inspection of the blood* as a means of aiding us in practice, as well as in the diagnosis of diseases.

"This disposition to a more speedy and easy separation of the colouring and fibrinous principles of the blood in inflammations, is evinced in small quantities as well as in masses. If a very thin stratum is allowed to flow over a piece of glass, the globules of inflamed blood will be seen immediately to aggregate themselves into clusters, leaving the intervals and edges pale and evidently composed of colourless fibrin and serum intermixed. The smallest drop of the same kind of blood, when placed in the field of a microscope, will, in the same manner, show an instant separation of the red globules from the liquor sanguinis, piling them up into columns like counted coin, with interspaces filled by the colourless globules and serum. We can easily, therefore, avoid the hazard of general blood-letting in doubtful cases; and decide whether inflammation exists or not by extracting a single drop of blood from the patient."—p. 49.

The following passage on the *power of the body, under certain forms of disease, to bear with advantage enormous doses of special remedies*, is

drawn from observation. But we are not to infer that the remedies thus spoken of, are ever to be employed so freely as our author's words might seem to justify.

"It is an admirable provision in the natural laws that qualifies most of the organs to bear the influence of such remedies as are calculated to remove their respective diseases. Thus, the nervous system, when afflicted with painful or spasmodic diseases, will tolerate much larger quantities of opium and other narcotics than in health. From sixty to one hundred grains of solid opium have often been given in a day for colica pictonum, and in tetanus, without producing any stupor, or other narcotic effect; the whole influence of the remedy being exhausted in overcoming the disease. Enormous quantities of stimuli are given, on the same principle, in some of the prostrate states of the system from diseases, without producing anything but a salutary effect; and prodigious doses of antimonials are tolerated in inflammations of the chest. In painful retentions of urine, and in strangulated hernias, a strong decoction of tobacco has been successfully injected into the rectum, without exciting either nausea or prostration; and in several forms of syphilis, mercurials can be given to almost any extent, without leaving behind any injurious effect."—p. 55.

Dr. M'Clellan is eloquent in the praise of *nitrate of silver* as a remedy for overcoming many of the local forms of inflammation. In most of his remarks upon this useful agent, we are ready to coincide with him. But on some points he has, here again, we fear, ventured to speak more strongly in its praises than his experience would have justified. We know something of the use of nitrate of silver in the treatment of purulent ophthalmia. But we here learn for the first time, that, in consequence of the use of this remedy alone, "it is now hardly possible to lose an eye from that once dreaded disease." (p. 62.)

Hunter versus Schwann, Henle et alii.—In his account of granulations, our author, after stating some of the points of difference between the views of Hunter and those of the modern microscopists, proceeds to draw a lively comparison between the old and the new doctrines. We must endeavour to make room for it.

"As physiology and pathology have both made a leap since the establishment of the cell-doctrine, it may not be altogether useless to institute a comparison between this new theory, more *in extenso*, and the long cherished hypothesis of Hunter. It will at least prove satisfactory to know how far the progress of microscopic discovery has gone towards superseding the splendid conceptions of the great investigator of life.

"The parallel which we have drawn between the two favourite theories of granulation, may be extended through all the other phenomena of organization, both in health and disease. All that Hunter attributed to the formative power of this coagulating lymph of the blood, the microscopists now credit to the organizing influence of the cell-globules, or nucleated cells of the same blood. He supposed that the blood, when effused among the living parts in very small quantities at a time, by virtue of its coagulating lymph, formed within itself its own vessels, which, by anastomosing with the capillary orifices of the surrounding parts, attracted the circulation into its interstices, and thus, by their actions, built up a new or additional organization. When the pure lymph is effused among the living parts, the same explanation of its organization was advanced by him, and maintained by all his followers. The capillary vessels were supposed to be formed spontaneously, within the mass of lymph, by its own inherent powers; and not by any extension, like a vegetative growth, of the surrounding vessels into its substance.

"It was a singular circumstance, that Sir Edward Home and Mr. Baer, in endeavouring to illustrate this doctrine of their great master, by proving how the vessels could be formed in fresh drawn blood under a microscope, should have almost anticipated the cell-doctrine itself. They observed what they thought to be numerous small particles or bubbles of fixed air arranging themselves by a

species of polarity in straight lines in a drop of fresh drawn blood. These appeared to form lateral openings into each other respectively, so as to constitute a series of capillary tubes, which, by opening a communication with surrounding vessels, might become blood-vessels themselves. Now where is the substantial difference between these observations and those of later microscopists? Were not the exceedingly small bubbles of air the same things under the microscope that are now regarded as formative cells or exudation corpuscles? It makes no difference as to the proper conclusion, whether we call them pale globules, whose outer surface shortly becomes covered with an epithelium, or nucleated cells, or de-nucleated red corpuscles, as others have done. The analogy appears still stronger when we recollect that all the cell advocates assert that they can distinguish these little corpuscles arranging themselves in straight lines, and opening into each other side by side, so as to become resolved into tubes. One might suppose that after having so satisfactorily explained the formation of blood-vessels, the framers of either hypothesis should have remained tranquil. Almost everything in the body can be done by the vessels. They are powerful to do, as well as to suffer. The disciples of Hunter attributed a full share of all the manifestations of life and disease, to the actions of the blood-vessels; and surgeons have always concerned themselves with the same agents, almost to the exclusion of other parts of the whole economy. But the enthusiastic advocates of the nucleated cells were determined not to remain stationary during the progress of discovery. By their microscopical researches, they have ascertained that the cell-globules, when conglomerated together, can convert themselves into cellular tissue, by forming lateral openings into each other in every direction, or by elongating themselves into caudated points in opposite directions. After consolidation into elongated shapes, they convert themselves into filaments and lamellæ, which, in connection with the cellular interstices, form the general mould or matrix of the whole body. Into the areola or meshes of this general text-work, the same all-creative cell-globules insinuate themselves, and form the parenchymatous substance of every elementary tissue of the entire organization. The epithelium of these little molecules, on being flattened down by desiccation on the surfaces, constitutes the cuticular covering of all the parts, including the hair and nails. Not content with this extensive physiological application of the cell-doctrine, its advocates have made it answer a still greater number of problems in pathology. If these corpuscles exist in too great a proportion, they must be productive of disease; if they are too scarce in the body, some equally distressing derangement occurs. If they are in any way badly or imperfectly constituted, or disorganized, some difficulty either in the functions or organization must be produced. From the use of the microscope, most of our recent authors appear to be able to detect in the form of globules floating in the blood the procreative elements of cancer, of fungoid tumours, and of scrofula. The entozoic and animalcular doctrines of the old surgeons have got quite out of vogue; and the nucleated and caudated cells are now placed in the chair of state by all our theorists. In the "Vestiges of Creation," we have been presented with a brilliant specimen of human genius in the way of extending this new doctrine to its ultimate limits. From the monad to a monarch everything is done by the action of the cells. The first cell-germ that was formed at the beginning of animated nature has been reproducing itself by an infinity of multiples ever since; and to account for all the diversified living forms that ever have existed, we have only to conceive that this multiplication has been at so many periods successively arrested in its different stages of development. The first stoppage of the process of cell multiplication would present an animal of a very low type of organization, possessed of a very small range of functions or powers. After this had gone on reproducing itself a few millions of times, until nature had got tired of its sameness, a leap would be made into a higher form of organization by the mere multiplication of the cells. By successive repetitions of this process, it is supposed gradually to have happened that all the races of animated nature have been finally created. Faculty after faculty has been added to former faculties of life, according to the rise in the complications of structure; until at last the powers of reasoning have been attained in connection with the cell-germ fabrication of a brain. The *fœtus in utero* is supposed to undergo a similar course of successive developments, except that the multiplication of its formative cells is at no period arrested until the final perfection

of its form has been attained. We must, then, according to the doctrine, have passed during the first six months of uterine existence through all the forms and assumed all the types of the whole of our Pre-Adamic ancestry, from the earliest monad up to the first man himself.

"But enough of this folly. The cell-doctrine has already been carried too far for the sober sense of practical surgeons. Let it remain as a plaything for the fancy builders in science. Allow the microscopists to pursue their own researches, and work out their favorite results. 'The tools to him who can handle them.' We will follow the investigation of plain and tangible things, which we can see with our own eyes, and manage with the hands which God has given to us. It will add no strength to the certainty of our knowledge to decide whether a small particle of lymph be in the shape of a globule or a cyst before it becomes the medium of organization. The archetypes of Plato were just as important to the Baconian philosophy as such matters are to the progress of modern surgery. The chemists have found out that it is not necessary to ascertain the mathematical shapes of the integral molecules of matter, in order to study their laws of arrangement and combination. So we can go on with our pathological inquiries on the broad foundation laid down by Hunter, without stopping to question whether the three primitive monads were cubes, or tetrahedrons, or spheres."—pp. 72-6.

Senile Gangrene.—While treating of gangrene, Dr. M'Clellan alludes to a set of cases "which," he thinks, "ought to be characterized, for the benefit of practitioners." His characteristics we recognize; but not his pathological reasonings upon them. He gives, in the form of notes, several cases, by way of illustration.

"The cases to which allusion is here now made, all present the peculiar phenomenon of the patient holding the affected member in a depending position. No matter how bad and inflamed the parts may be, the limb will be held downwards, and frequently it will be impossible to prevent the sufferer from exposing it to the full blaze of a fire. It would appear as if the obstructed state of the arteries leading to the affected member, or their impaired condition of vitality, prevented the free access of blood to the limb, and, therefore, required the aid of gravity and of warmth to prevent the necessary access of blood into the capillaries. The minuter vessels and their controlling nerves being called on to make increased efforts to pump, as it were, the circulation through enfeebled arteries, necessarily generate the accompanying pain and irritative inflammation. The increased pressure of the column of blood from above, under the force of gravity, relieves them from the necessity of making such extraordinary efforts, comforts the irritated and exhausted nerves, and explains the advantages of a dependent position of the limb. The influence of warmth in some cases, and of internal carminative and diffusible stimulants, can also be satisfactorily explained on the same principle."—pp. 95-97.

We can refer to instances that have fallen under our own care, of senile or dry gangrene, corresponding, as we believe, to those to which our author here alludes; but so far as we remember, all connected with some embarrassment in the general circulation, as valvular disease of the heart, atheromatous deposits in the coats of the larger vessels, or thoracic effusions; or with some other source of constitutional disturbance, which, independent of the state of the affected limb, was of itself sufficient to prevent the patient from assuming the horizontal position. In referring to the cases which our author gives in evidence of what he considers this peculiar form of gangrene, we find that this was also clearly associated with one or another of these forms of constitutional disturbance.

In perhaps a majority of cases of senile gangrene, there is an evident degree of insensibility to acute suffering in the affected limb, and hence, when a patient is much incommoded by a sitting or recumbent posture, he will put his affected foot to the ground, and even walk about, with as little

apparent suffering from it as if it were entirely sound. We have at this moment under care a gentleman, about eighty-seven years of age, with gangrenous inflammation of one of his great toes, in connection with paralysis of the bladder. While the bladder is comparatively empty, he will keep his foot elevated without complaining; but as soon as the bladder begins to be somewhat distended, no persuasion can prevent him from pacing about his apartments, urging as a reason for so doing, that, "when a man is suffering, he must seek such posture as gives him least uneasiness."

The following statement in regard to the place of election for amputating after the arrest of senile gangrene, may occasionally be proper; but we do not believe it to be in accordance with general usage; and our own experience is, in some measure, opposed to it.

"After the complete arrest of senile gangrene, amputation may be completed at the line of separation, in most cases, with great benefit and comfort to the patient, but it can never be performed with safety through the sound parts above. The results of the trials made in the common way in this country, have been almost uniformly unsuccessful. If the patient stands under the shock of the operation, he almost invariably sinks in a few days or weeks from exhaustion, and that, too, without cicatrization of the stump."—p. 98.

Without resorting to written authority on this question, some of which Dr. M'Clellan undertakes to refute, we can remember at this moment at least one case which occurred seven years ago, in a man between seventy and eighty years of age, whose leg was amputated, on account of gangrene of his foot, at some inches above the line of demarkation, with complete success, the stump healing over as kindly as if the patient had, at the time, been of vigorous constitution, and of middle age. We hold to no absolute rule either for or against surgical interference, in the gangrene of old people, after the line of demarkation has been fairly formed. In a class of cases the causes of which may be so various, the surgeon must be guided by the circumstances peculiar to each individual, as to where or when to operate.

Erysipelas.—Hitherto, as we have seen, our author has been dwelling on the immediate effects of injuries; but with incidental allusion to other subjects that are naturally associated with inflammation. He next proceeds to speak of erysipelas. This he divides into simple, phlegmonous, hospital and gangrenous; and under the same head he treats of erysipelataous inflammation of the mucous and serous surfaces. His account of erysipelas, occupying about twenty pages, is, on the whole, satisfactory. We would perhaps have added a few remarks on some of its complications, and the treatment required by these; as for example, cerebral and other visceral affections, œdema glottidis, and suppuration of some of the larger joints from the extension of the disease to their synovial surfaces. Numerous and severe cases of diseases of the joints, some of them requiring amputation, the direct result of the extension of erysipelas from the superficial tissues surrounding them, have lately fallen under our own notice. The joints that we have seen thus attacked, have been the ankle, the knee, the wrist and elbow. In the instances calling for amputation, we have found, that, after the period of a very few weeks, the synovial tissues, as well as the articular cartilages, have been completely destroyed; but hitherto we have found the bare surfaces of the bone quite smooth, and free from caries or interstitial softening. We are not aware, without, indeed, having made much inquiry on the subject, that diseases of the joints are usually spoken of among the complications or results of erysipe-

las. The cases to which we refer, however, have all fallen under our own notice within the past two years.

The rules laid down by Dr. M'Clellan for the treatment of erysipelas, are such as are commonly observed by the profession in this country, with the exception, perhaps, of his advice to resort early and freely to the use of the lancet, in the phlegmonous form of this disease. Blood-letting may, doubtless, be occasionally demanded both freely and at an early stage, in some cases. But as a general rule, the tendency of the disease to show itself in persons previously of a broken constitution, and to assume a typhoid form even from the first, should put us upon our guard against very active depressing modes of treatment. In the management of this disease, as it shows itself in hospital practice, it has long been observed, that, after attending to the secretions, and giving free exit to purulent effusions, a supporting and tonic course is usually called for.

The following remarks on the impropriety of resorting to blisters, with the view of checking phlegmonous erysipelas, are worthy of attention :

"The skin being not only over-excited, but greatly weakened by the destruction of the subcutaneous supply of vessels, is easily injured by a severe stimulus. The application of a blister, or of any other irritant, is then readily followed by sphacelation. Mild and soothing emollients must, instead of such applications, be resorted to, and free incisions made to discharge the offending purulent matter. The dead cellular tissue will afterwards float out with the sanies, in sloughs, like flakes of tow. By moderate and equable bandaging, it will then be possible to cause an adhesion between the under surface of the detached skin, and the lining surfaces below, and thus preserve its vitality."—pp. 109–10.

The author's picture of *gangrenous erysipelas*, or at least of a variety of this disease, which appears to be peculiar to rural districts, is not familiar to us. It is strongly drawn.

"During the harvest season of our northern latitudes, sporadic cases of this terrible malady sometimes occur among intemperate labourers who work from sunrise to sunset in the open air, and under an almost tropical sun. Stimulated by high daily wages, and the most pernicious kinds of alcoholic liquors, such men sometimes overtask their powers, and inflame their systems to the highest pitch of exasperation. The food which they consume at this season of the year is, moreover, especially unwholesome. It consists almost exclusively of badly cured salt meats, and heavy Indian corn bread, with the half decayed vegetables of the preceding year, combined with a harsh drink of fermented apple-juice, called cider, pickles, and a plenty of fresh milk. It naturally follows, that intemperance combined with such diet, and fatiguing exposure to an ardent sun for fourteen hours every day in succession, must tend to the production of the most dangerous state of constitutional irritability. Then the slightest prick or contusion will always be followed by a widely-diffused inflammation. But occasionally, an overwhelming and speedily fatal explosion of constitutional and local disturbance will supervene. A mower, who has a short time before struck his foot against the sharp point of a twig, or a reaper, who has merely scratched a finger with a stub of straw, will throw down his implement of labour, and scream with mortal agony. The injured member will suddenly tumefy, and present a glazy appearance with livid streaks, intermingled with green and yellow patches. Gangrenous vesicles will soon form, and a putrescent odour begin to exhale. The pulse will be feeble and tremulous, the skin cold, and the respiration hurried and moaning. The face will be contracted, or hippocratic; the breath putrid, the eyes glairy, and the epigastric region distressed with a sense of horrible oppression. In from twelve to twenty-four hours the poor wretch will die, with the limb enormously swollen, tense, and crackling, with all the appearances of a malignant erysipelas, terminating in gangrene. No treatment has ever been known to check the progress of this disease. The tumefaction and lividity will, in the meantime, have extended

up to the very trunk of the body, so as apparently to have invaded the vitals."—pp. 113–14.

Abscesses.—Passing over what is said on furuncle and on carbuncle, we next find our author treating on abscesses: and having already spoken of simple abscess under the head of Suppuration, he here goes on to describe diffuse, fetid, chronic, cold, lymphatic, and scrofulous abscess, and abscess by congestion. Under this head, we can make room only for his remarks on *lymphatic abscesses*, and the cases thereunto appended.

"It is very rarely, indeed, that a surgeon in extensive practice can meet with a decided effusion from a ruptured lymphatic, among the living parts. The constitution must always then be infirm, or the parts in a state of preternatural relaxation. The cases which most frequently occur, are those which result from unhealthy suppuration of the lymphatic ganglia, terminating in an ulcerative breach in some of the larger lymphatic trunks, and producing a more or less considerable effusion and distension. These are apt to remain fistulous after their discharge, and present a gentle lymphatic oozing for a long time.* Small lymphatic blebs or abscesses sometimes occur at the cicatrix after venesection at the bend of the arm, which evidently result from an unhealed puncture of a lymphatic vessel. They are very easily ruptured, however, by pressure, and continue to discharge the pure lymph *guttatim* for a season. The application of a pointed stick of pure lunar caustic, and subsequent pressure with graduated compresses, will speedily obliterate all such discharging orifices. Sometimes congenital fistulous orifices of the lymphatics appear in infancy, and continue for years, discharging occasional drops of pure lymph. These especially occur in the neck, along the course of the carotids, and may probably result from an incomplete closure of the lateral openings, found in that region during the earlier stages of fœtal development. The proper treatment is to excite obliteration of such orifices, by the application of a small red hot wire, or a pointed piece of solid caustic."†—pp. 127–28.

* One case occurred to me about ten years ago, in the right arm of a young man just above the internal condyle, in the usual situation of the first brachial lymphatic ganglion. He had been afflicted with a small abscess there about four years before, which left a small fistulous opening, from which a frequent lymphatic oozing occurred. Another, precisely similar, since occurred in one of the forearms of a lady, over the upper third portion of the anterior interosseal space, and continued for several months after the partial closure of every small abscess there. In some rare instances, dissection has revealed a very small lymphatic ganglion in that space along the course of the central lymphatics of the forearm. But an abscess on the course of the larger lymphatic trunks will terminate in such orifices, as well as abscesses of the glands.

† Some years ago I was consulted for a case of this kind, in the person of a daughter of Capt. Campbell, of Pine street. She was then about seventeen years old, and rather pale and delicate in her appearance. A very small and almost imperceptible orifice existed in the skin, directly over the anterior margin of the sterno-mastoid, in the middle region of the neck. A common bristle could hardly be inserted into it, and it resembled very closely one of the empty cutaneous follicles. A very small drop of transparent lymph could almost always be seen over this orifice, and every few minutes it would trickle down like a tear. On rubbing the neck with a slight pressure, especially upwards, this discharge would be considerably augmented; and I took advantage of this to collect a few drops in a teaspoon. The fluid underwent an imperfect or flocculent coagulation, as I have found always to be the case on repeating Magendie's observations upon the lymph, when extracted from the vessels of living animals.

One of the children of a late Hon. Secretary of the Navy, was born with the same kind of lymphatic orifice in the same region of the neck. When I saw it, the child was about three years old, and the discharge of lymphatic fluid had continued at intervals up to that period, from his birth. As the child was then ill with fever, I did not venture to cauterize the orifice, but suggested the cure to the parents for the consideration of their family physician, in a remote State of the Union. That was about five years ago, and I have just met with an intimate friend of the family, who says that the stillicidium of watery fluid still continues down the neck, with occasional interruptions.

Wounds.—Ulcers, burns, and scalds, and the effects of cold, offer nothing to detain us. But the subject next in order it would be unfair to pass over entirely unnoticed. Under the head of Wounds, we have a detailed account of the varieties into which those are commonly divided, and some further observations on Shock. Next follow rather full accounts of hemorrhage and tetanus, after which the author speaks of poisoned wounds, hydrophobia, dissection wounds, and malignant Pustule. Most of these subjects are well disposed of. We can notice only a few of them.

Time for the Removal of Ligatures.—As a means for checking hemorrhage from vessels of any size, Dr. M'Clellan, in common with other practical surgeons, trusts mainly to the ligature. In this we agree with him; but not in his haste for its removal. The time which he assigns for withdrawing it is far too short: and we fear that whoever undertakes to remove a ligature from an artery of even moderate size, at the close of the period mentioned by him, or at any time short of it, will, sooner or later, have serious cause to repent of his rashness.

"Although ligatures always prove somewhat irritating, and excite some degree of inflammation in their track, they can in general be brought away in *from one to four days*, by slight traction through the interspaces of the plasters, provided they have been properly applied around the mouth of the vessels alone. It is better practice to insure all the inconveniences of the ligatures, than to encounter the risk of exciting a greater degree of inflammation by the use of irritating styptics, for the purpose of arresting hemorrhage from large vessels."—p. 165.

Mode of applying Styptics.—The failure of styptics and astringents to check the loss of blood, is often owing to carelessness in the application of them. When pressure and astringents are to be employed as a means for the arrest of hemorrhage, the plan suggested below may be worthy of trial. The use of pressure over the vessel above the point of injury, during the application of the styptic agents, and for some time afterwards, is of great importance in rendering these efficacious.

"In many cases of secondary hemorrhage, we can succeed perfectly well without resorting to any cutting operation. If we get an assistant to make firm compression upon the main trunk of the artery above, while we are clearing out the coagula, and searching for the bleeding orifice, we can apply well graduated compresses loaded with styptics upon it in such a firm manner as to ensure a subsequent obliteration of its cavity. A powder composed of equal parts of powdered galls, tannin, and gum Arabic, applied by means of moistened compresses of lint or sponge, and bound down firmly with a well-adjusted roller, while the pressure is still maintained on the trunk above by an assistant, will often succeed to our full satisfaction. The reason why graduated compresses and styptics do not oftener succeed in the hands of practitioners, is, that they attempt to make such local applications, while the blood is still flowing from the orifice. To make them perfectly effectual, they should keep up the compression over the main trunk above, for half an hour, at least, after the styptic has made its full impression upon the wounded orifice. By that time the coagulation and contraction will have become so fully perfected, as to resist the returning impetus of the circulation."—pp. 189-90.

Caution against disturbing Hemostatic Dressings.—Dressings for arresting hemorrhage should not be incautiously removed.

Dr. M'Clellan makes some judicious observations on this subject which we need not cite. The case which he gives of improper interference with his hemostatic dressings, is to the purpose; but we fear it has been over-coloured. We can hardly be persuaded that it is correctly reported. No hospital surgeon, we are satisfied, could jeopardize the life of a patient for the empty gratification of knowing how Dr. M. thought best to apply his dressings.

"During the riots in Southwark, I dressed a horrid cannon-shot wound in the right groin of a young soldier from Germantown. He had been struck there with a broken piece of cast iron, with the fragments of which one of the cannon in the hands of the mob had been loaded. The whole fore part of the fleshy substance of the groin, in contact with Poupart's ligament, had been torn away, and a prodigious rent made across the artery, with a hole in the vein. He had flooded the floor, on which he lay, with gore, and was deadly faint when I arrived. It was late at night, and the rioters were all around. I, therefore, applied graduated compresses, and bound them down with a spica bandage. But it required two hours constant nursing, with his head and shoulders in my lap below the bedside, and the incessant use of cordials and brandy, to revive him. During his reaction the poor fellow was delirious, and wanted to go home. He had no return of hemorrhage, however, and by morning I got him so far recovered, as to have him transported in a carriage to one of the hospitals. There, however, somebody stripped off his bandage and pulled away the compresses, to see how I had dressed the wound! The blood gushed out in a torrent, and a second fainting process carried the patient off to a better world."—p. 115.

For checking Hemorrhage after Leech-bites.—To check the loss of blood from leech-bites is sometimes a troublesome task.

The common plan of resorting to caustic or a heated wire, our author rejects in favour of one which he holds to be quite as efficacious. The glazed surface of a piece of visiting card pressed firmly upon the orifice, he says, will answer the purpose. It possesses the advantages of giving no pain, and of leaving no scar.—(p. 199).

Tetanus.—We give below a rapid sketch of the distinctive features of the acute and chronic forms of tetanus, with an estimate of their comparative danger. The reader will not fail to notice the passing salute with which medical periodicals are honoured.

"The first makes very rapid progress, is excessively painful, especially at the paroxysms, and extends in a very short time throughout the whole muscular system. This almost invariably proves fatal, and may be compared to hydrophobia in danger, which indeed it resembles in many other respects. The chronic forms of tetanus extend very slowly, and are sometimes even confined to the muscles of the jaw, or back of the neck, throughout the whole progress of the disease. The paroxysms are never so severe or distressing as in the acute tetanus, and the disease is altogether more amenable to treatment. Almost all the cases of cure which have ever been reported, even in the boastful and ill-digested periodicals, have been chronic. Acute tetanus generally proves fatal in about three days from its commencement. Cases, however, sometimes occur in which death takes place in a few hours, and one case of a negro in the West-Indies has been recorded when death followed in fifteen minutes from the attack. Chronic tetanus often lasts for fifteen or twenty days, and if the symptoms are not getting exasperated by that period, we may hope to restore the patient."—pp. 203-4.

The differences between acute and chronic tetanus have long been recognized. The danger of the disease is usually in proportion to the rapidity of its advent and diffusion throughout the system. We admit too that most of the instances of reputed cure, have been comparatively mild, or of the chronic form. But we do not admit that the acute form, even in its severer grades, is not now and then amenable to treatment. We happen to be among those unfortunate individuals who have reported "in the boastful and ill-digested periodicals," some severe but successful cases of acute traumatic tetanus; and we have since seen others of the same character that have been prevented from running down, and by active interference, happily supported, until the disease has had time to resolve itself by its own natural limitation. For we look upon this formidable disorder, after having closely studied it both at the bedside and in the dissecting room,

as one unconnected with any morbid organic expression, and like many other purely functional disorders, in some degree self-limited. And we are led to believe that the danger of a fatal result during the progress of the disease, depends, for the most part, either on suffocation, from spasm of the glottis; on interrupted circulation of the blood, from irregular and sometimes spasmodic contraction of the heart; on the severity of the primary injuries that give rise to, and complicate, the constitutional disorder; or on general exhaustion from the prolonged and excessive excitement to which the whole frame is subjected, accelerated, in some cases, by inanition, and no doubt, in others, by injurious and heroic treatment. Although neither the force nor the rapidity of the disease appears to hold any relation to the severity of the primary injury, yet we have met with no cases of recovery where the primary injury was so severe as, of itself, to endanger life.

Dr. M'Clellan remarks that the acute form terminates fatally in about three days. He makes no estimate of the time in which it may terminate in recovery. From the cases that have fallen under our own notice, we are disposed to believe that the spasms begin to be mitigated about the seventh day. Patients that hold out to the end of the second week, usually recover. But the spasms yield only inch by inch: the parts first affected being those from which the spasms are first disposed to subside. They sometimes recur, however, with great severity as late as the third week, or afterwards, in parts which they appeared to have entirely left; and they often linger at one or two distinct points, as in the muscles of the foot, or of a single toe, for days after they have left every other part of the body.

We cannot go farther into our author's account of the symptoms of tetanus, than to allude to his remark upon the condition of the skin; which, he informs us, is often cold and torpid (p. 207). In the incipient stages, such may perhaps, sometimes, be the fact; but, as a general rule, after the spasms have fairly commenced, the skin is bathed in warm perspiration.

In respect to treatment, Dr. M'Clellan, after speaking of the various modes that have been adopted, is disposed to recommend large doses of solid opium, with an occasional cathartic of calomel in combination with croton-oil.

"The great constitutional measures, however, to be relied on in the majority of cases, are to tranquilize the system by large and frequently repeated doses of opium, and the maintaining of the regular action of the bowels by a combination of calomel and croton-oil, or some other active cathartic of an eccoprotic character. Hydragogue cathartics are always improper, because they deplete the circulation too severely, and prostrate the vital powers. The frequent repetition of the calomel, along with the opium and other remedies, not only assists in maintaining the secretions, but tends, fortunately, in some cases, to produce a critical salivation. In all hot climates, mercurials are found to be especially serviceable, and many judicious practitioners employ it freely by external inunctions at the same time that they are using it internally. It is astonishing to witness the quantities of active medicines which patients afflicted with severe tetanus require, to produce any positive effects. The system always acquires a remarkable tolerance of remedies in this disease. From half an ounce to an ounce and a half of solid opium is said to have been given in a day for this disease, without producing any narcotic effect. In the same the strongest injections of tobacco are required, in order to overcome the muscular spasms, and then they hardly ever prostrate the system. The influence of such remedies appears to be altogether expended in overcoming the irritation of the disease."—p. 208-9.

We have, in many instances, seen opium liberally, nay, rashly administered, though never to the extent above stated. And we have known patients profoundly and alarmingly narcotized by it, without any well-marked

or permanent benefit. The moderate use of opiates is admissible; but nothing further. Our own views of the treatment of this disease may readily be inferred from what we have already stated. Without entering into details, we may say, that our therapeutic agents consist mainly of antispasmodics, stimulants, and a supporting regimen. Among the first, we trust to assafœtida, either in substance, or an emulsion; and in large doses, frequently and perseveringly repeated; among the second, we resort to wine, porter, or to alcoholic drinks in moderate quantity, but increased in accordance with the previous habits of the patient, or the severity of the disease. Where there is no great difficulty in swallowing, the assafœtida and other remedies may be administered by the mouth; but when there is danger of spasm of the glottis, or too great rigidity of the fauces to admit of swallowing, these remedies must be administered by the rectum, and they are most efficacious when thrown well up into the colon through a gum-elastic tube. The assafœtida of itself usually acts upon the bowels, but if necessary, more active cathartics, as the tincture of rhubarb and aloes, must be combined with it.

Dr. M'Clellan reports two successful cases of acute tetanus, the only two, as he states, that have ever fallen under his own observation. These appear to have both been liberally plied with opium; but it will also be observed that, in the one case, the strength was maintained "by the liberal use of brandy with gruel;" and, in the other, "by the liberal use of brandy and gruel, with broths."

"In the case of young Mr. Bockius, of Germantown, whom I attended in consultation with Dr. Ruuckel, Sr., we first cut away the comminuted fragments of two metacarpal bones of the left hand, which had been shattered by the bursting of a gun, and dressed the wound with terebinthines. We kept up irritation over the whole spine by frictions with croton oil and tartar emetic, and gave 82 to 86 grs. of opium a day, for about two weeks, without producing any coma or oppression. The remedy appeared to expend all its powers in allaying the universal tetanic rigidity and spasms. We also rubbed mercurial ointment over the limbs, and gave calomel in combination with the opium, until a moderate ptyalism was produced. The bowels were kept open by occasional doses of croton oil, and the strength was maintained by the liberal use of brandy with gruels. In a few days the wound began to suppurate, and the rigidity and spasms disappeared. The patient has continued well for about fourteen years.

"The other case of cure to which I have alluded, was that of a house carpenter, Mr. McGlathery, in North Fifth street, who was seized with a universal rigidity and painful spasms on the ninth day after a deep puncture in the sole of one of his feet from a rusty nail. The wound was perfectly dry, and more than an inch deep, when I laid it open and stimulated it with lunar caustic. It was then dressed with spirits of turpentine and basilicon. As he was cold and shivering, I continued the use of a hot vapour bath which a steam doctor had begun to apply, for many hours, and gave three grs. of opium and five of calomel every hour, till an impression was made on the spasms. No narcotic impression was induced, although I increased the doses to nearly 100 grs. a day, occasionally. On an average, he took full sixty grs. of opium *per diem*, for twelve days, and the calomel was aided by mercurial frictions, until ptyalism was induced. The spine was at the same time irritated by blisters and tartar emetic ointment. He was supported throughout by the liberal use of brandy and gruel, with broths, and finally recovered perfectly."—p. 210-11.

Syphilitic Poisons.—Dr. M'Clellan is a believer in the plurality of syphilitic poisons.

"It is impossible, from the very nature of things, that septic poisons should not vary. The elements and products of secretion vary in the different parts of the same complications of organs, even in the same sex; and when we take into

consideration the commixture of these secretions, after irregular and promiscuous intercourse between the most filthy and negligent of both sexes, we can experience no difficulty in concluding, that the chemical or putrefactive reactions which take place among them, must be productive of diversities of animal poison. Each form of the virus on being once generated, may continue to be propagated for an indefinite period by contagion: or it may finally wear out, or be lost for want of means of communication; and then a new species be formed afresh from another concomitance of circumstances. In the same way we may conceive of a number of contagions going on collaterally at the same time, through different members of the same community, although not mixing with each other respectively."—p. 226–27.

* The foregoing argument in favour of essential differences in the syphilitic virus, might be worthy of more consideration than we can bestow upon it, if it did not apply with as much force to the virus of small-pox, measles, scarlatina, &c., as it does to that of the venereal disease. Following the opinions of Mr. Carmichael, our author maintains as certain, what the other has advanced only as probable. "Thus," says Mr. Carmichael in regard to the different forms of the disease, "whether the variety is owing to a diversity of poisons, or a diversity of constitutions, is a question that can only be resolved by a series of experiments, which it is not to be expected that any man will be so public spirited as to submit to himself, or so unreasonable as to inflict upon others." (*Observations on the Venereal*, London, 1818, p. 5.)

But, says Dr. M'Clellan:—

"Like all other animal poisons, the different forms of venereal virus, when introduced into the circulation, produce a train of constitutional symptoms of greater or less regularity, and characteristic marks of an indisputable species, according to their durability of impression and the periods allowed for calling the different textures of the body into diseased action. Every virus which gains a rapid admission into the system, and produces an immediate effect upon the constitution, terminates in such tumultuous and dangerous excitement, as can hardly be arranged under any particular head of nosological arrangement. On the other hand, those which confine themselves a long while to the part with which they first come in contact, and are slowly afterwards propagated throughout the system, terminate in symptoms of a much more definite and characteristic form, susceptible of comparison and classification."—p. 228.

Our author having adopted Mr. Carmichael's views in regard to distinct species of syphilis, follows him also in the classification of these, in the delineation of symptoms and sequences by which they are characterized, and in maintaining the invariable connection between the primary and constitutional symptoms of each species. To enter into an examination of these disputed points in the history of the venereal disease, would be to undertake a review of the whole of Mr. Carmichael's doctrines and hypotheses, instead of a hurried notice of the work of our present author. And this we do not feel called upon to do at present.

Describing first the constitutional symptoms, and afterwards taking up the primary forms of the disease, the present essay is deficient in that simplicity of arrangement which should naturally grow out of the progressive developments of the disease itself, and which is, in some measure, necessary to make the description of it clear and intelligible to the student. Dr. M'Clellan's account of the various manifestations of the disease, however, is drawn with the ease and boldness of one who has long been familiar with his subject, and the course of treatment which he points out to meet and overcome these, is, in general, judicious and unobjectionable. In this

connection we shall offer only one or two comments on topics of minor importance.

Local Treatment of Nodes.—We have a special object of our own in alluding to so small a matter as the local management of nodes. Our author speaks of the treatment of periosteal swellings on two occasions: but on neither occasion do we meet with a mode of management which we have ourselves employed with marked advantage. "When the periosteum is affected," says he, "and especially when matter is confined beneath it, the stimulus of distension causes excessive pain and disturbance. What are called the nocturnal pains then become excessively distressing, and require deep incisions to relieve them." (p. 257.) He elsewhere alludes to the use of blisters, mercurial inunctions, lunar caustic, iodine, and anodyne embrocations. (p. 299.)

The practice to which we allude is, to divide the periosteum freely over the whole of the diseased part by a subcutaneous incision, leaving the skin untouched, except so far as is necessary to introduce the blade of a narrow, sharp-pointed bistoury. This practice we have employed for years past, as a substitute for the more formidable division of the soft parts. The relief obtained from the subcutaneous operation is quite as decided as from the free incision of the skin; and the inconveniences resulting from the latter, are in this way almost entirely obviated.

Local Treatment of Sympathetic Buboes.—These our author treats with the view of repelling them, on the principles that apply to ordinary inflammatory swellings. "The treatment," he observes, "is often more protracted and unsuccessful than in genuine buboes from absorption of the morbid poison of true chancre." He recommends leeches, blisters, emollients with lead water, and various stimulating and escharotic applications (p. 276). But he forgets to speak of repose, and of the use of continued and well-regulated pressure, either by means of the compress and spica bandage, or by the direct application of some weighty substance over the affected part.

Local Treatment of Gonorrhæal Inflammation of the Testicle.—In the management of this affection, Dr. M'Clellan speaks of active depletion, followed by mercurial cathartics, antimonials, and copious leeching over the scrotum; of the recumbent posture, elevation of the affected organ, and poultices with lead water, until the inflammation is overcome; afterwards a suspensory bag, the use of laxatives, and the application of a mercurial plaster to the scrotum (p. 276). We would add to the treatment for the early stage of the disease, a brisk emetico-cathartic, with a tobacco poultice to the scrotum: and to the treatment of the latter stages, firm and equable pressure by means of adhesive straps; renewing them from time to time, as the swelling subsides.

Morbid Growths.—The closing portion of this volume is an essay of 120 pages on the various forms of tumours, and other adventitious growths, benign and malignant. On this part of the book we scarcely feel at liberty to enter. The materials, as we here find them, could not have had the benefit of the author's revision, after his first draught. And although in these latter pages we meet with numerous and important details on some of the most interesting diseases that fall under the care of the surgeon, elucidated with a profusion of cases that have at different periods fallen under the author's own observation, yet, as a whole, this essay appears to us little else than a hurried digest of certain portions of Vogel's *Pathological Anatomy*. We may, therefore, reasonably suppose that, had its author

lived, he would have materially modified it, and perhaps have entirely recast it, before presenting it to the profession.

It is now full time to bring our notice of this volume to a close. In the perusal of its pages the reader will find abundant evidence to convince him that its author had the advancement of his profession much at heart; that he was an acute, assiduous, and bold practitioner; and that his surgical reputation was deserved. But he will find in the work the development of no new principles; and but little that can be looked upon as original. The author's principal claim to permanent reputation will probably rest on his numerous extirpations of the parotid gland. But the great number of cases upon which he has attempted this operation, and the record which is here furnished of some other of his more serious performances, must lead us to believe, that he was not, at all times, insensible to that sort of *éclat* which is, even still, so readily bestowed upon surgical temerity.

So far as the Editor has shown himself in the preparation of this volume, his task has been commendably executed. The hint which he throws out, of continuing the work to its completion, it may not perhaps be thought proper or expedient to carry into effect. We would, however, respectfully suggest to him, that by collecting and arranging under proper heads the more valuable of his father's cases, of which he has probably left written reports, and publishing these with a running commentary of practical remarks,—he might do more for perpetuating his father's reputation, and for augmenting his own, than can possibly be effected by attempting to complete the present work.

J. W.

NEW YORK, August 12th, 1848.

BIBLIOGRAPHICAL NOTICES.

ART. XVI.—*An Inquiry into the Degree of Certainty in Medicine; and into the Nature and Extent of its Power over Disease.* By ELISHA BARTLETT, M.D., Professor of the Theory and Practice of Medicine in Transylvania University, &c. Post 8vo. pp. 84. Lea & Blanchard, 1848.

THE readers of Dr. Bartlett's "Philosophy of Medical Science," will assuredly not wait for the opinions of professed critics before procuring the little work of which the title has just been given. Whatever proceeds from this author relating to the foundations of medical evidence, or claiming to illustrate and defend that ancient faith whereby we live and make live, cannot fail to be received with honour and perused with interest, by all who are acquainted with his previous labours. This analysis is more directly presented to other portions of the medical public, to awaken a curiosity in them which they cannot gratify without gaining valuable instruction, and becoming more firmly and intelligently attached to the divine art which they profess. From the rare occurrence of technical words, and the explanations given of several of these, it may be presumed that the author of this essay addressed himself in a particular manner to non-medical readers; he indeed expressly states that he was moved to take up his pen by the one-sided and therefore false view of medicine, which had been given in the well known and widely distributed article of Dr. Forbes. To the poison which has so greatly, although indirectly, been imbibed from this production by the skeptical, both within the profession and external to it, Dr. Bartlett has prepared an antidote which, if applied with half the zeal that has been used to propagate the corresponding error, cannot fail, in a great measure, to neutralize it. Not to be misunderstood, we beg distinctly to say, that we regard Dr. Forbes's essay as mischievous, not because it is untrue, but because it does not tell the whole truth; because, as our author expresses it, the confession of the defects inherent in medicine was not accompanied "with the qualifications and conditions absolutely essential to the truth of the confession itself." If the confession had been made to physicians alone, instead of being disseminated amongst the laity, as it was in this country, by republication in a separate and cheap form, it would have been productive of almost unmingled good. It might, indeed, have moved the ire of that portion of the medical populace who can make no distinction between credulity and faith, and who are as incapable of reasoning logically as they are of observing correctly; but it would have stirred even more deeply and fruitfully than it has done, the governing minds of the profession, and it would not have excited that apparent dissent and hostility, but real co-operation by carrying out the incomplete doctrine of its writer, of which the essay before us is the most important illustration. Of Dr. Forbes's paper we will only say, in addition, that it contains some positive errors which, although inconsiderable as affecting the general argument, have, nevertheless, been assumed as true, and dwelt upon as if they contained the pith and substance of the whole matter. We allude to the statistics of the homœopath, Fleischmann, which are now ascertained to be not only incorrect, but wilfully false. That credit should have been attached to them originally, arose from the fact, that in Vienna all practitioners of medicine are obliged to undergo the same course of study and examinations, and that, consequently, even homœopaths are of necessity educated men, possessed of a legal rank, and therefore to some extent respected. It now turns out that the intellect that was weak enough to thrive on the windy emanations of the seer of Meissen, was allied to a conscience which did not restrain its possessor from selecting patients of robust constitution for his hospital, and those, especially, who were recommended by their religious enthusiasm,—from coun-

terfeiting the diagnoses reported on the registers; and even from sending away those who could not recover, lest their deaths might swell that infinitesimal mortality which the interests of Hahnemannism, if not of truth, required to be as nearly as possible expressed by a blank in the hospital reports.

Dr. Bartlett states as one of the general motives to his inquiry, that confidence in medicine has *within the last few years*, been greatly lessened and impaired. We question the propriety of representing the prevalent skepticism as so nearly exceptional; it may, perhaps, be somewhat more widely spread, but it has not taken nearly so deep a hold of the educated classes as during the last century. During the great intellectual revolution which preceded that of physical force in France, the evil was of greater magnitude than now. Cabanis writing in 1788, says: "Not long ago it was the fashion at Paris to ridicule medicine, and treat its powers as chimerical. . . . The apes of literary men, vain of appearing like them above superstition, fancied themselves bound to retail in society the arguments of Montaigne, the jests of Molière, and the vagaries of Rousseau. Day after day these very persons who denied a Providence and a plan in creation, would argue that the cure of diseases was due entirely to provident and wise nature." To represent our art as now, for the first time, the subject of ridicule, or the object of hostile attacks, is discouraging indeed, for we are thereby led to exaggerate its defects and its danger. Physicians should know that from the time of Hippocrates downward, the same railing accusations have been brought against medical art, and have been repelled with the same shield which truth and nature still extend before their first-born child. We draw no argument for apathy from the certain ultimate failure of these assaults; they must be met, and the assailants shown that their shafts are spent against a panoply which is impenetrable over every vital part.

It should be recollected that at the present day medicine is by no means alone in exciting the hostility of the scorner and the skeptic. The number who attack its claims to confidence is far less than of those who proclaim the most uncompromising enmity to whatever is consecrated by time and human reverence, in religion, in art, and in political institutions, and who gravely, or at least boldly, maintain that the experience of thousands of years is to kick the beam when weighed against their crude and flimsy fancies. The general upturning of society which has converted every man into a legislator, has made him vainly imagine that the right implies the capacity to legislate; and at the same time, in conferring the legal power to express opinions upon all subjects whatever, has encouraged, if not created, the conviction, in the minds of too many men, that they are competent to judge of every question in science and art which they choose to arraign at their tribunal. When human affairs shall have regained their equilibrium, these impertinent pretenders will sink to their natural and base level, and it will once more be recognized as an eternal truth, that skill depends on knowledge and talent, and that they alone are competent to express opinions on a subject, who are fortified with the completest knowledge of its nature and relations. To offer proofs of the power of medicine to minds distorted in the way described, were altogether useless; they will go on misrepresenting its principles and practice until pain drives them to demand its assistance; just as they malign the laws until some invasion of their rights makes it convenient to seek the aid of justice; or as they sneer at religion until they find that there is one hour, at least, in life, when none but one of *its* ministers can thrust back the grim legion of regrets and fears which trample down their boasted courage. But there is a large class composed of persons hurried into doubt by the mischievous current of the age, who nevertheless do not yield to it entirely, and would gladly stay their descent upon any firm footing of truth; to the rescue of these persons, most valuable by their intelligence and honesty, it behoves us to come; and many such, we cannot doubt, will be won from their peril and disgrace by the calm and incontrovertible arguments of our author.

The title of Dr. Bartlett's essay, it will be perceived, is the same as that of Cabanis, but his mode of treating the subject is somewhat different. The French writer, in a noble strain of eloquence, annihilates, one after another, the objections of cavillers, great and small, against the certainty of medicine; the American author, taking up the examination of particular diseases and classes or groups of diseases, *demonstrates* by a calm and cautious process that science is as far ad-

vanced in a knowledge of them, as of any other branch of organic natural history; and that medical art exerts upon them a positive and powerful control, the degree and limits of which he accurately points out. We proceed to sketch an outline of his argument.

After showing that the completeness of anatomy and physiology is as satisfactory as it is in any of the natural sciences, and that it is constantly becoming more perfect, Dr. Bartlett proceeds to prove that our knowledge of the causes of disease, of the seat and phenomena of disease, and of the means of preventing, mitigating, and removing disease, is both real and very considerable. Taking pneumonia as an illustration, he passes in review the anatomical characters of this disease, showing that they are as constant and uniform, and as thoroughly known, as the facts of any physical science whatever; and that its rational and physical symptoms have been so carefully studied and accurately determined, that there is no lack of certainty and positiveness in the signs by which pneumonia is revealed to us during life. Further it is shown that the danger of pneumonia has been accurately measured, and proved to depend upon the age at which it occurs, the constitution and habits of the patient, certain combinations of symptoms, epidemic influences, &c. The probable mortality of a large group of cases occurring under determinate circumstances may be predicted, although the issue of any given case cannot be foretold with equal certainty; the probabilities, however, can be very closely calculated, because the several circumstances which influence and indicate the degree of danger have been very accurately ascertained. Such facts, our author very fairly argues, ought "to convince the most skeptical, and to satisfy the most incredulous, that the science of medicine, so far at least as pneumonia is concerned, in no degree deserves the charges of incompleteness and uncertainty which have been laid at its door."

"But the value of medical science depends wholly upon its connection with medical art;" it is a blessing and benefit to mankind in so far only as it is capable of preventing, curing, or mitigating disease, and its claim to possess these qualities is precisely that which inspires least confidence, and is most eagerly assailed. "Practical medicine, it is asserted, is altogether a hap-hazard affair of guess and conjecture, doing good, when this happens, more by accident than according to any constant and fixed principles, and as often doing harm as good." The fallacy and injustice of this opinion are fully proved by adducing the results of treatment in pneumonia. And here we beg to direct the attention of those who undervalue the numerical method of recording and investigating the phenomena of disease, to the fact that the argument of our author could never have acquired the force of a demonstration without the aid of this method. Cabanis and others had long ago insisted upon what indeed they knew to be true, that medicine was curative, and one plan of treatment more curative than another, but with those who were not eye witnesses and competent judges of the causes and tendencies of disease, the vagueness of the proposition was fatal to its acceptance, nor could their assent to it be challenged until it was shown *how much* disease is indebted to treatment for its cure, and *how much* one method excels another. This our author has accomplished successfully by employing the materials furnished chiefly by Louis, Grisolle, and Dr. James Jackson.

Between 1821 and 1827 Louis studied the effect of bleeding upon pneumonia. "Of fifty cases terminating in health, twenty-three were bled, for the first time, within the first four days from the commencement of the disease, and the average duration of the disease in these cases was *seventeen* days; twenty-seven were bled for the first time between the fifth and ninth days inclusive, and the average duration of the disease in these cases was *twenty* days." Between 1830 and 1833 Louis made a similar comparison of results in twenty-five cases of pneumonia which got well, and found the average duration of those which were bled previous to the fifth day was *fifteen and a half* days, while those which were bled from the fifth to the fourteenth day inclusive, lasted *eighteen and a quarter* days on an average. Now unless it is alleged that bleeding in pneumonia is essentially mischievous, and that, therefore, these statements are merely comparisons of evils—no sound mind can resist the conclusion that depletion performed during the first four days of an attack of pneumonia shortens the disease by one-fourth or one-fifth.

But to make the proof complete, we are not compelled to *assume* that bleeding

is in any degree useful in pneumonia; that, also, can be demonstrated. In 1840, M. Grisolle treated eleven cases of this disease without using any active remedies, as they were sufficiently mild to justify him in so doing. "*The cases all terminated favourably, but it is very important to remark that considering the limited extent of the inflammation, and the general mildness of their character, the prominent symptoms of the disease persisted for an unusually long period of time.*" The pain in the side, for instance, did not wholly cease in any case until the seventh day, and in several it continued till the twentieth, twenty-fifth, and twenty-seventh, its mean duration being fifteen days." The general fever usually continued until the tenth day, the physical signs did not begin to diminish before the close of the second week, nor convalescence commence until about the twelfth day. In strong contrast with these cases, another group is furnished by M. Grisolle, consisting of thirteen, quite comparable with the last as regards age, constitution, and severity, and which were treated by depletion. In these the average duration of the pain in the side was only eight days, the general fever subsided at the end of the first week, and convalescence was fully established twenty-four hours later.

From all these facts no ingenuous reasoner can avoid concluding, first, that bleeding has a sanative influence on pneumonia, and secondly, that this influence is greatest the nearer to the commencement of the disease it is employed. Were there no other facts than these on record, the conclusion would remain equally absolute and equally valid. But not on these alone does the argument for the certainty of medicine rest. Others of a like character are at hand which so confirm the foregoing, and fortify the reasoning which they furnish, as to leave no hole through which even the most lithe and slippery skeptic can escape.

In 1836, Dr. J. Jackson, of Boston, published a detailed analysis of thirty-four cases of pneumonia, which shows the influence of bleeding upon the disease in the light already presented. "The average duration of the disease in those who were bled for the first time on or before the fourth day, was about *twelve* days, the average duration in those bled after the fourth day was *thirteen and a quarter*; and in five cases which were not bled, except locally in one, the average duration was *fourteen and a half* days, nearly. The latter cases were also the mildest." Results essentially the same as these, are afforded by an analysis of two groups, the one of fifty, and the other of one hundred and eighty-two, cases of pneumonia observed by M. Grisolle. Both were principally treated by depletion. In the one the treatment began, on an average, between the third and the fourth day, and the mean period of convalescence was towards the tenth day; in a hundred and one cases of the other group in which depletion was principally used, the frequency of the pulse was more or less diminished after the first bleeding, and when this was performed previous to the fourth day the pulse fell to its natural standard by the eleventh; but when the operation was later performed, the pulse did not reach its natural standard until near the thirteenth day. Thus, we must conclude with Dr. Bartlett, "*Louis has demonstrated that the circumstance of a few days' difference in the time of practising blood-letting makes not merely a trifling and unimportant, but a very considerable, difference in the duration of the disease, and a corresponding difference in the duration of its leading symptoms.* Grisolle has demonstrated, in the same manner, that mild and slight cases of the disease, although they would recover without any active remedies, *have all their prominent symptoms very greatly mitigated in severity and shortened in duration by blood-letting.* . . . I ought to add here that these positive results of Louis's and Grisolle's researches *stand entirely uncontradicted by any adequate counter testimony.*" There is still another and a very important deduction to be drawn from the facts which have now been presented, a deduction most gratifying to every faithful disciple of the healing art; it is "that the accredited and settled belief which has prevailed ever since the age of Hippocrates in the efficacy of blood-letting in the treatment of pneumonia, is not an error and a delusion: it has its foundation in nature and in truth . . . and is sustained by proof, by all the proof, and the only proof of which, in the nature of things, it is susceptible."

A similar and, if possible, more decisive argument in favour of the certainty of medicine is drawn by our author from Grisolle's records of the treatment of pneumonia by tartar emetic. We cannot follow him in his exposition of the palpable effects of this agent upon all the prominent symptoms of the disease, nor do much

beyond stating his conclusions. The first series of cases contains forty-four, generally grave, and in which no active remedy was made use of excepting antimony. Under its operation the pain was speedily relieved, and in some cases immediately removed; in twenty-seven out of the thirty-eight who recovered, the pulse fell to the extent of from ten to forty in a minute on the second day; with a single exception the physical signs remained stationary, or began to diminish from the first day of the administration of the medicine; the heat of the skin, the headache, the thirst, and the general restlessness, diminished or ceased with the same promptitude; the convalescence was remarkable for its rapidity, and the small impairment of the muscular strength; and the mean duration of the disease was only ten days. A second series consists of eighty grave cases in which antimonials had been preceded by local or general depletion. In the seventy patients who recovered, the treatment produced a rapid amelioration of the chief symptoms, and, in two-thirds of them, a very decided amendment took place during the first two days. In a third series of thirty cases which had been copiously bled, but still grew worse, the antimonial treatment was employed as a last resort. Half the cases were desperate at this period. "In nine cases where life was in imminent peril, there was so decided an amendment after the first, second, or third daily potion, that the patients might be looked upon as almost out of danger."

In analyzing the evidence which has now been summarily presented, Dr. Bartlett admits, or rather infers, first, that a certain number of cases of pneumonia recover by mere dietetic and regimènal treatment, not by chance, however, but only provided that they occur under certain determinate conditions of age, constitution, gravity, &c., conditions which medical science alone has revealed. In the second place, it cannot be denied that a certain, but smaller number, also, are inevitably fatal, fatal in the nature of things, and by their own constitution; the conditions of this result have also been discovered by medical science. Finally there is a third and largest class whose termination is contingent; it depends upon circumstances, among which is the treatment employed, for "*it is impossible to doubt that a remedy, or a method of treatment, possessing great and unequivocal control over a disease, almost invariably, when properly and promptly applied, greatly mitigating its severity, and abridging its duration, must often determine the issue of disease, and save the life of the patient.*" In the last class of cases which neither tend spontaneously to recovery, nor result inevitably in death, "*the issue depends upon the treatment of the disease*."

We agree with our author that they greatly err who suppose that a power, such as medical art is here shown to possess, "is so qualified and contingent as to be of little worth." It is, in fact, immense, since, in a large number of cases, it holds the issues of life and death. Besides, omitting for the present more than a passing allusion to its benign faculty of palliating what it cannot cure, the degree of certainty in medicine is infinitely precious, for it is the highest compatible with the nature of the case. To the individual patient it is beyond all price, for who but the physician can decide upon either the nature or the gravity of his disease? who else detect the signs of its passing from a mild to a grave form? or who else determine the appropriate method of treating it according to the new phases which in its progress it presents,—when to withhold the hand wisely, or when opportunely to interfere? It is clear that unless the physician can aid him, he is utterly without rational hope of assistance. If there is any human helper for him, the physician must surely be that helper.

There are still some who concede the claims which medicine has established, but, attracted by the novelty, the vigour, or the mysticism of some medical heresy, become its partisans and subjects, and assume that the evidence in its favour is, at the least, equal to that of legitimate art. With Dr. Bartlett, we demand their proofs; but the leaders of these delusive and dangerous systems have furnished none. "Yet until they exhibit some evidence of the efficacy of their remedies, such as scientific medicine has exhibited of *its*, until they can point us to investigations corresponding, at least in some feeble degree, to those which I have cited, it is difficult to see by what rules of logic, by what principles of philosophy, or by what code of morals, we can be asked to believe in their doctrines or to adopt their practice."

Dr. Bartlett devotes some space to considering a probable objection to the pre-

ceding argument,—that it relates to but one disease, and may be quite inapplicable to all or to many others, and he shows that what has been proved in regard to pneumonia, is true of many other diseases both in kind and degree, and of all but a restricted class in kind if not in degree. He then proceeds to inquire what power medicine exerts over each of the several classes into which he divides diseases. In this discussion the nature and limits of medical art are clearly depicted in the modest but unchangeable colours of truth.

The first class consists of diseases of slight severity, such as common catarrh, simple diarrhoea, and simple muscular rheumatism, which indeed subside and disappear in a few days, under diet and rest alone, but which may often be cut short or greatly modified by proper medicinal treatment. These are cases familiar to all the world, and it seems strange that the evident efficacy of gentle medicines in them, should not have more generally suggested the probability that stronger agents might be proportionably curative in grave attacks of disease.

The second group comprises disorders which have a slighter tendency to cure, and yet rarely destroy life, as chorea, chlorosis, and functional dyspepsia. These are almost as positively under the control of medicine as the first class. Chlorosis is a most distressing and yet an eminently curable disease. Nature does little or nothing for it unaided by art, and to art the power of curing it is due. Dr. Bartlett well remarks that “if our science and art had done nothing else than to ascertain the effects of iron upon this malady, they would have given a gift to humanity that ought, at least, to shield them from the blind and bitter assaults of arrogant ignorance and wooden-headed stupidity.”

In the third group are included diseases which do not ordinarily destroy life, but which are somewhat graver than most of the foregoing: such are *sporadic* dysentery, simple acute rheumatism, acute pleurisy, and tonsillitis. The first will usually get well without medicine, and may be arrested *in limine* by a full dose of opium; the others are much less readily or certainly controlled by treatment unless it is applied in their incipient stage, in which case they are occasionally cut short, or else materially mitigated.

A fourth (which indeed might have included the third) class comprises most of the more serious local inflammations, and all the general fevers, whooping-cough, cholera, erysipelas, delirium tremens, and so on. These are, for the most part, self-limited, and tend either to recovery or death, according to the circumstances which influence the severity of the disease. Pneumonia belongs to this class, and what has been said of the influence of remedies upon it, is to a greater or less degree, true of them. Of each disease, the three sorts of cases already described may be met with, and of each, therefore, there is a considerable number whose issue depends altogether upon the treatment. In this category we meet with brilliant and unequivocal therapeutic results; the antiphlogistic power of antimony in pneumonia; the narcotic, antispasmodic, and anodyne powers of opium; the effects of emetics in croup; of wine and other stimulants in petechial typhus; of quinine in periodical fevers, &c. The virtues of the last named agent it is equally impossible to call in question, and to over-praise; and scarcely less eminent and undeniable are the salutary effects of stimuli in the typhoid and exhausted states of numerous diseases. His experience must be very small who has not repeatedly witnessed the rescue from death, by a few draughts of wine or brandy, of a patient whose life has for hours hung trembling upon the confines of the grave. The power of medicine to save life is just as unequivocal here, as in arresting suffocation by the removal of a foreign body from the trachea.

A fifth group of diseases remains, comprising those which, in the present state of our knowledge, are incurable, or but little under the control of medicine: such are hydrophobia, diabetes, phthisis, tuberculous meningitis, epilepsy, traumatic tetanus, cancer, softening of the brain, granular nephritis, and various structural lesions of the heart and other viscera. Some of these appear to be absolutely irremediable, or at all events, the chances of cure in a given case, of hydrophobia, for instance, is probably not one in a million; and little more can be said of the favourable chances in diabetes, centric epilepsy, and tuberculous meningitis. Of the remainder, phthisis and softening of the brain, and cancer, occasionally get well, or, like valvular disease of the heart, remain stationary for many years; in either case, perhaps as often without as with special medicinal treatment, while

traumatic tetanus, a disease almost inevitably mortal, when abandoned to itself, has been repeatedly cured by the prompt and vigorous interposition of medical art. But while it must be confessed that, with the exceptions named, medicine is unable to *cure* the diseases of this group, she is not, therefore, useless; her ministry might as well be rejected for them, as the principles of honour, morality, or religion, because they only enable us to bear inevitable ills, under which, without their support, we should readily succumb. If medicine does nothing more for these diseases, says Dr. Bartlett, "it occasionally [we would say very frequently] defers their final period; and very generally it renders less rough and painful than it would otherwise be, the pathway to the tomb; it brings rest if not healing on its wings; it takes some drops of bitterness from the cup it cannot remove; it smooths the pillow, and spreads tenderly the couch of our last long sleep."

It should also be observed that medicine is not chargeable with the incurability of disease. As all the living must certainly die, it is clear that there is a limit to the progress of art which is fixed and impassable. Yet within this ultimate bound there is, as our author justly maintains, a constant and indefinite progression, and it is no less bad logic than faint philanthropy, to suppose that diseases which now defy our skill, must continue to do so. As well might it be alleged that syphilis, periodical fevers, traumatic tetanus, and croup, have destroyed as many victims since they were treated with mercury, bark, revulsion, and emetics, as before these agents were directed against them.

Dr. Bartlett next alludes to the striking efficacy of medicine in scrofula, some chronic affections of the skin, and above all syphilis, painting in true but vivid colours the train of hideous symptoms induced by this disease, which, when unopposed by art, "not only extends and multiplies itself, until every fibre and fluid of the body is involved in its foul contamination," but corrupts the fountain of life, and afflicts successive generations with an hereditary taint. The manifold benefits of medicine in obstetrics are summarily stated, with the unquestionable fact, that the life both of mother and child is frequently saved by the physician's timely interference. The usual facility and safety of labour have induced some persons to decry the value of obstetrical art, and even to deny the necessity of employing a physician in ordinary cases; but they probably do not know, or they forget, that it is only by superintending the progress of a case that the obstacles to its favourable issue can be early enough detected to ensure their removal; and they likewise forget that if there were none to study, and that habitually, the normal process of parturition, to determine how far nature is capable of repairing her own errors, and when, on the other hand, the aid of the physician is necessary,—there would be none to understand, and none, therefore, to teach that art on which the safety of so many lives depends.

The immunity of surgery from the detraction and skeptical cavils which assail the medical department of the healing art, is correctly enough attributed by our author to its mechanical processes, which appeal so directly and forcibly to the senses of the unskilled. But he shows that "there is no essential difference between the certainty of the surgical and the certainty of the medical art. The processes and operations of the surgeon, like the medicines of the physician, are his means for the removal or mitigation of disease, and, like the latter, their efficacy and success are always more or less contingent and uncertain." The idea contained in the last sentence seldom or never occurs to laymen, and not with sufficient frequency to medical practitioners. The surgeon is commonly judged by his *operation*, but the physician never gets credit for his operation, i. e. his prescription; the former is estimated according to the dexterity with which he applies his means, without regard to their appropriateness or their result; the latter is estimated according to the result alone, and no one inquires what skill, knowledge, or tact he may have shown by his method of treatment. The public form a notion of the comparative value of surgery and medicine, by contrasting the *agents* of the one with the *results* of the other! A comparison of nutritious food and strong men would be just about as rational, and lead to an equally correct idea of their respective merits.

In connection with obstetrics and surgery, allusion is made to the surprising control which medicine is capable of exerting over the throes of child-birth, and the

anguish inflicted by the knife, by means of anæsthetic agents, but the author does not consider their value in the former as being positively and definitively determined. We cannot but think their *power* as far beyond dispute in the one case as in the other, and that its reality may with strict propriety be invoked to prove the beneficent influences of the art of medicine, but we are unable, in the present state of the subject, to decide upon the safety of these agents, and consequently, cannot look upon them as acquisitions to the *materia medica*, destined permanently to enjoy the same freedom and latitude of application as at present.

Not the least, but perhaps rather the greatest, of the triumphs of our art are shown in its power to prevent disease. Those who have not studied the subject, can form no adequate conception of the vast sacrifice of human life which has been almost put an end to by sanitary laws founded upon the data which medical science has furnished. To it are humanity and civilization indebted for staying the awful ravages of the plague and other communicable diseases, by the institution of quarantines; to it they owe the present salubrity of many districts, through the detection of the causes which formerly rendered them the dens of pestilence; to it they must give the glory of having stricken the chain from the limbs of the maniac, and of having converted the receptacles of the insane from howling pandemoniums into well ordered families, where smiling hope unlocks the door to health; to it they must ascribe the almost complete extinction of scurvy by land and sea; and to it that wonderful discovery which has reduced the annual number of victims to small-pox from thousands to tens, and which, if perseveringly applied, would exterminate the malady throughout the world, as it has already done in several localities. To naught, in fine, but medicine lending her aid to legislation, can it be attributed, that the proportion of deaths to births has been constantly declining, and that in some places, during the last century and a half, the average duration of life has more than doubled. If more than two thousand years ago, the Greek poet celebrated the art of physic as "the first and greatest" of the gifts of Prometheus to mankind, how much better reason have we to exalt its worth, which, since the time of Æschylus, has stayed so many plagues, has conquered so many maladies, and has been the inseparable handmaid of civilization, in assuaging the pains, and prolonging the life of man!

From the mingled analysis, citation, and suggested comment, which has now been presented, the reader may, to some extent, judge of the skill and feeling with which our author has, to use his own words, "woven a garland for the angust and god-like forehead of the genius of our art." He has done a good work, a work for which he deserves the respect and gratitude of the medical profession, and of all sound-hearted men, whatever their pursuits, who fight under the banner of truth, and are the sworn foes of all imposture, the determined opponents of all error. Not to the snarling pack of cavillers who must needs vent their spite in some direction, and would, if driven from their hold on this, fly at some perhaps more sacred object—not among them would we cast this well-fleshed bone of contention;—they are worthy of no such meal. But we would willingly lay it before all those who will search for its errors only to discover if it is indeed the offspring of truth; for we are persuaded that the reasoning will bear a rigid scrutiny, and that it only errs by claiming less for medicine than is its legal due. To all who sincerely doubt the certainty of medicine, and to all who cannot state the grounds of their faith in its efficacy, we commend this argument as convincing and satisfactory; and, finally, we hope that it will be read by every member of the medical profession who desires to learn more fully, or to hear rehearsed anew, the virtues and charms of the mistress whom he loves and serves. With an eloquent summary of these, from which we extract the following passage, our author concludes his voluntary task.

"There is no process which can reckon up the amount of good which the science and art of medicine have conferred upon the human race; there is no moral calculus that can grasp and comprehend the sum of their beneficent operations. Ever since the first dawn of civilization and learning, through

'The dark backward, and abysm of time,'

they have been the true and constant friends of the suffering sons and daughters of men. Through their ministers and disciples, they have cheered the despond-

ing; they have lightened the load of human sorrow; they have dispelled or diminished the gloom of the sick chamber; they have plucked from the pillow of pain its thorns, and made the hard couch soft with the poppies of delicious rest; they have let in the light of joy upon dark and desolate dwellings; they have rekindled the lamp of hope in the bosom of despair; they have called back the radiance of the lustreless eye and the bloom of the fading cheek; they have sent new vigour through the failing limbs; and, finally, when exhausted in all their other resources, and baffled in their skill—handmaids of philosophy and religion—they have blunted the arrows of death, and rendered less rugged and precipitous the inevitable pathway to the tomb. In the circle of human duties, I do not know of any, short of heroic and perilous daring, or religious martyrdom and self-sacrifice, higher and nobler, than those of the physician. His daily round of labour is crowded with beneficence, and his nightly sleep is broken, that others may have better rest. His whole life is a blessed ministry of consolation and hope.”

A. S.

ART. XVII.—*An Analytical Compendium of the Various Branches of Medical Science, for the Use and Examination of Students.* By JOHN NEILL, M. D., Demonstrator of Anatomy in the University of Pennsylvania, Lecturer on Anatomy in the Medical Institutes of Philadelphia, etc., and FRANCIS GURNEY SMITH, M. D., Lecturer on Physiology in the Philada. Assoc. for Med. Instruc., Fellow of the College of Physicians, etc. Philadelphia: Lea and Blanchard, 1848. 12mo. pp. 908.

THE present compendium consists of a series of “Hand Books,” or manuals, on Anatomy, Physiology, Surgery, Obstetrics, Materia Medica and Therapeutics, Chemistry, and the Practice of Medicine. It is not offered as a substitute for the ordinary text-books, or to lessen the necessity of regular attendance on lectures or close office study, but solely to assist the student of medicine in the prosecution of his labours, and the practitioner, in refreshing his recollection of former studies.

The authors disclaim all pretension to originality. “As an *Analytical Compendium*, its highest claim is to be considered a faithful digest of recorded facts and opinions. They ask for it nothing more, and, to obtain this, they have freely used the standard text-books of the day, gleanings from them whatever seemed useful to their purposes, even in some instances to the use of language as well as ideas, and to them they own their indebtedness.”

The several manuals embraced in the *Compendium* of Drs Neill and Smith, it must be admitted, have been prepared with much skill and judgment, and present a correct outline of the several branches of medical science of which they respectively treat. Having already, on more than one occasion, expressed our objections to works of the character of the one before us, however unexceptionable they may be in point of execution, it is scarcely necessary to urge them again here. It is true that a good analytical compendium of the various branches of medical science will be found, on many occasions, a *convenient* table book to both student and practitioner; it may be useful to the first, to test the accuracy of the knowledge he has acquired, and to the second, to refresh his recollection in regard to any particular fact or opinion upon which it may have proved faithless. But even in this point of view we cannot admit them to be absolutely necessary, and a great objection to manuals, compendiums and digests arises, not so much from their legitimate use as from their great liability to abuse. They have, we fear, too often encouraged the indolent student to turn aside from the true sources of that knowledge which is essential to fit him for the faithful performance of his duties as a physician, and to dissuade him from that system and diligence of application in the acquisition of professional information which make, as it were, his own, by imprinting clearly and strongly upon his mind, the very digest of recorded facts and opinions which the manual presents to him, without the expenditure, on his part of either time or labour; but, at the same time, divested of any history of the steps by which these facts and opinions have been arrived at, of the basis upon which they rest, and in short of all collateral matter calculated to give to them their true value and relative importance. Consequently the study

of manuals is apt to lead to a superficial instead of a full knowledge of the subjects of which they treat; to an acquaintance with the mere outlines of science rather than with the science itself.

But, notwithstanding the valid objections against manuals and compends, resulting from the improper use made of them, it is very certain that works of this description will be published and resorted to by the student. A kind of necessity for them has been created in the minds of the latter, which, from the facility of gratifying it, becomes very difficult to eradicate or counteract. Consequently as we cannot keep these books out of the hands of the student, it is all important that their preparation should be confided to such only as are qualified to render them faithful and true guides to the recorded facts and opinions in reference to the subjects of which they treat. It is in this point of view that the analytical compendium of Drs. Neill and Smith can with great confidence be recommended. As a clear and accurate outline of anatomy, physiology, surgery, obstetrics, materia medica and therapeutics, chemistry and the practice of medicine, it may be profitably consulted. It presents a very fair exposition of acknowledged facts and generally received opinions. The arrangement adopted will be found at once concise and clear; while its mechanical execution, its copious pictorial illustrations in the branches of anatomy, physiology, surgery, obstetrics, materia medica and chemistry, together with its neat, cheap and convenient form, will recommend it to all such students and practitioners who may desire to avail themselves of what cannot fail to prove, if kept within its proper sphere, a convenient and useful remembrancer.

D. F. C.

ART. XVIII.—*A Practical Treatise on the Diseases of Children.* By J. FORSYTH MEIGS, M. D., Lecturer on the Diseases of Children in the Philadelphia Medical Association: Fellow of the College of Physicians of Philadelphia. 12mo. pp. 575. Philadelphia: Lindsay & Blakiston, 1848.

THIS work, which forms the third volume of the "Series of Manuals" now in course of publication under the title of "*The Medical Practitioner's and Student's Library*," will be found, by the student and junior practitioner, an excellent and faithful guide in their study of the pathology and therapeutics of the more prominent of the morbid affections incident to the period of childhood.

The author has availed himself of the labours of the more authoritative of those who have recently directed their attention to the investigation of this class of diseases, while he has not neglected the results of his own observation, which have, evidently, been made with diligence and accuracy. From the materials thus derived, he has prepared a correct and useful manual that will greatly facilitate the student's acquisition of the more important facts relative to the causes, character, symptomatology and management of the diseases of which it treats; while it will not be found beneath the notice of the practitioner.

Dr. Meigs' descriptions of disease are clear and concise, his pathological views are, in the main, sound, and his practical directions plain, simple, and judicious. His work is far from being a mere compilation from the best authorities, or a simple array of the various and often discordant views of the leading writers on the diseases of children. He has, with judgment, selected his materials, testing them in most instances by the results of his own experience, and endeavouring throughout, to present an exact exposition of the present state of our knowledge on the several forms of disease of which he treats.

It is not our intention to enter into a critical examination of the several chapters of Dr. Meigs' volume. This would be unnecessary, excepting to enable us to express our general assent to the views advanced by him in reference to the subject of each. The few particulars in which we differ from the author being of minor importance, we prefer to pass them over without comment.

In regard to one disease, however, the author has fallen, we believe, into an error, and though this is not calculated to lead to any very serious malpractice, still, as correctness, in a matter relative to the pathology of an important malady, is always desirable, we must be allowed to say a word or two in relation to it.

The error to which we allude occurs in his account of gangrene of the mouth of children. If we understand correctly our author, he supposes that the only form of *gangrena oris*, properly speaking, is that which commences upon the inside of the cheek, and that the gangrene which commences in the gums, is invariably the result of *ulcero-membranous stomatitis*; which latter he declares to be the disease described by Dr. B. H. Coates, with the exception of a few cases, as having prevailed at the Children's Asylum in Philadelphia.

There are, we are convinced, several very distinct forms of gangrene of the mouth, and it very frequently occurs in the gums entirely independent of *ulcero-membranous stomatitis*. Our connection, for many years, with the almshouse infirmary, as out-door physician, gave us an opportunity of seeing a great number of cases of gangrene of the mouth in the children of the poor, inhabiting unhealthy localities in the lower districts. In the greater number of instances the gangrene occurred without the slightest appearance of a pseudo-membranous deposit. The gums became of a dark red or purplish colour, swollen and spongy; there was a profuse discharge of fetid saliva, occasionally mixed with dark-coloured blood. The gangrene was usually, but not invariably, preceded by a number of ash-coloured vesicles, which rapidly increasing in size, coalesced, and finally ruptured, exposing the denuded gum, black and in a state of gangrene. A similar form of *gangrena oris* is described by Richter. In other cases, the first indication of the disease was some degree of swelling and redness of the gums, succeeded by a separation and slight loss of substance at their extreme edge in contact with the necks of the teeth; this part subsequently became black, and by a succession of sloughs the entire soft parts covering the dental arches were destroyed, leaving the bony structure beneath bare and in a state of necrosis.

This latter form corresponds with the disease described by Dr. Coates in the paper quoted by Dr. Meigs; and from the description given by Dr. C., we should not be led to infer that in any of his cases the gangrene was the result of *ulcero-membranous stomatitis*. No mention whatever is made of any pseudo-membranous plastic deposit, and from our knowledge of Dr. Coates' habits of cautious and accurate observation, and his faithfulness in delineating the phenomena of disease, we have no reason to suppose so important a fact would have escaped his notice, or if noticed that he would have neglected to record it.

The work of Dr. Meigs has so much of excellence to counterbalance the mistake we have just noticed, that we can, without hesitation, recommend it to our readers as one of the best manuals of the diseases of children in the English language. We regret, however, that the plan of the work did not permit of its embracing all of the maladies incident to the periods of infancy and childhood.

D. F. C.

ART. XIX.—*Reports, for 1847, of Institutions for the Insane in the United States, viz:—*

- 1st. *Of the State Insane Hospital at Augusta, Maine.* By JAMES BATES, M. D.
- 2d. *Of the New Hampshire Asylum for the Insane, Concord.* By ANDREW McFARLAND, M. D.
- 3d. *Of the State Lunatic Hospital, Worcester, Mass.* By GEORGE CHANDLER, M. D.
- 4th. *Of the State Lunatic Asylum, Utica, New York.* By A. BRIGHAM, M. D.
- 5th. *Of the New York City Pauper Lunatic Asylum on Blackwell's Island.* By W. H. RANNEY, M. D., Resident Physician.
- 6th. *Of the same.* By JAMES MACDONALD, M. D., A. V. WILLIAMS, M. D., and BENJAMIN OGDEN, M. D., Visiting Physicians.
- 7th. *Of the Bloomingdale Asylum for the Insane at Bloomingdale, New York.* By PLINY EARLE, M. D.
- 8th. *Of the Pennsylvania Hospital for the Insane at Blockley, near Philadelphia.* By THOMAS S. KIRBRIDE, M. D.
- 9th. *Of the Ohio Lunatic Asylum at Columbus.* By WILLIAM M. AWL, M. D.
- 10th. *Of the Lunatic Asylum of Tennessee, at Nashville.* By JOHN S. McNAIRY, M. D.
- 11th. *Of the Lunatic Asylum of the State of Georgia.* By THOMAS F. GREEN, M. D.
- 12th. *Of the Chicago Retreat for the Insane.* By EDWARD MEAD, M. D.

1st. In consequence of an alteration of the time for the termination of the fiscal

year of the Maine Hospital, the present report embraces a period of sixteen months. The number of patients admitted is more numerous than at any former term of equal duration, and some applications have been rejected for want of room. A large addition to the building is in progress.

	Male.	Female.	Total.
Patients in hospital, Dec. 1st 1846	59	41	100
Admitted during the 16 months	93	64	157
Whole number	152	105	257
Discharged	73	57	130
Remaining, March 31st, 1848	80	47	127
Of the patients discharged, there were cured	38	30	68
“ “ “ “ died	9	5	14

It appears that heretofore, at this institution as at nearly all others, the number of cures has been essentially diminished by the injudicious and premature removal of patients. “I have now,” says Dr. B., “to congratulate the friends of the Insane and of this Institution on the passage of a law, by our judicious legislators, which went into operation on the second day of September last, placing the whole subject in the hands of authorized persons, both in and out of the hospital; so that in future, *feeling*, unaided by judgment and discretion, is not to limit the term of residence here. From the opening of the hospital until the provisions of that law were operative, persons brought their friends when they thought proper, and claimed a right to remove them at pleasure. The consequence was most disastrous to the welfare of those prematurely removed, and to the reputation of the Institution.

“In looking over the reports, it is truly painful to observe the great number who were thus taken away, when in an improving and curable state, either to relapse into a worse and perhaps incurable condition, or to be returned here with the malady greatly aggravated, if not beyond remedy. Sometimes this mischief has resulted from the morbid sensibility of friends, but more frequently from the parsimonious meanness of individuals and corporations.”

The following extract is made in the hope that it may be the means of awakening attention to the subject in other states. The laws to which it refers were drawn up by Dr. Bates, and are a model for other communities.

“It is believed that no state in the Union is in advance of Maine, in the humane provision of its enactments in relation to the insane. No longer can jails and dungeons, not even the state prison itself, be inhabited by those deprived of reason; and nothing but the most brutal neglect of humanity and law, by a whole neighbourhood, can consign such unfortunates to hovels, cages, or chains. Any relative or justice of the peace may prevent it.”

	Male.	Female.	Total.
Whole number admitted from 14th Oct. 1840	414	331	745
do. do. discharged cured	-	-	285
do. do. died	-	-	45

The following remarks upon the subject of recent and chronic cases deserve a perusal by persons interested in the treatment of insanity.

“Few things are more various, in the numerous reports which come to hand from Institutions similar to our own, than what are termed *recent* cases. In general, of late years, cases admitted within one year of the attack are denominated *recent*. This would be very well and easily understood, if such cases were continued to be *recent* cases, in the reports, until discharged. But such is not the fact. In one report, which contained a table purporting to give the admissions and discharges of recent and old cases, it was seen that the recovery, discharges, and deaths, together with recent cases remaining, were much less than stated in the admission. Further examination showed, that at the end of each year those remaining in hospital which had become of more than one year’s standing, were turned over to the department of old cases.

“By such a course, and rejecting deaths, paralytic and epileptic cases, and perhaps some others, from the aggregate, the cures of recent cases are very conveniently carried up to 90 per cent.

"It is probable, in some instances, this rejection and pruning away of exceptional cases, might be carried so far, that 100 per cent. of recoveries, in recent cases, could be reported, and received with wondrous admiration by that portion of the public who are better pleased with marvellous fiction than with homely truth."

Notwithstanding our liberal extracts from this excellent report, we cannot well refrain from quoting the following remarks upon the moral treatment of the insane.

"As in a family, so in an Institution for the Insane, the head must be master of the inmates; but this control cannot be acquired over every individual by the same means.

"Kindness is undoubtedly to be the governing principle throughout. But here, as in all governments, an inefficient, tolerating course, may prove absolute cruelty.

"It is true of mental, as of any other malady, the remedies required are often distasteful and offensive, and to neglect their application on that account would be a most flagrant dereliction of duty.

"Repression and coercion may be as necessary to restrain the waywardness and unbridled violence of a maniac, as a surgical operation to preserve the life or limb of one requiring such treatment. There is no less proof of kindness in the one case than in the other.

"To connive at, or acquiesce in delusions, would be to confirm them, and would often diminish the chance of recovery. To attempt to dissipate them by arguments would be as objectionable; but the use of such physical and moral remedies as serve to divert or even distract the mind from its false pre-occupation, may do much good, though such means may be more or less painful to the individual, and decidedly opposed to his wishes."

2d. The number of patients in the New Hampshire Asylum for the Insane, May 31st, 1847, was as follows:—

	Male.	Female.	Total.
Whole number of patients - - -	52	48	100
Admitted during the year - - -	51	41	92
Whole number during the year - -	103	89	192
Discharged and died - - -	46	37	83
Remaining June 1st, 1848 - - -	57	52	109
Of the patients discharged, there were cured -	19	10	29
“ “ “ “ died -	4	4	8
Whole number of admissions since asylum opened			546
do. do. recovered - - -			179
do. do. died - - -			31

The institution is in a flourishing condition, and all its apartments devoted to patients, are now constantly occupied.

A considerable portion of this report is devoted to arguments in favour of keeping the chronic insane, as a general rule, in Asylums particularly intended for the treatment of mental diseases, rather than permitting them to be returned to poor-houses and prisons.

In reference to that clause in the law of the state which empowers the probate judges to commit to the Asylum any Insane person "who is in such a condition as to render it dangerous that he should be at large," Dr. McFarland very properly remarks that "experience of the most painful kind has repeatedly taught the lesson, that it is by no means those whose mental manifestations exhibit the most insanity who are most dangerous to be at large." No statute authorizing the confinement of the insane, should be expressed in such terms, since, if it be literally construed, a very large proportion of persons suffering under mental disease would not come within its scope.

The following remark occurs in that portion of the report devoted to the discussion of the value of statistics. "As tables made up from the records of Institutions for the Insane, are of use only as data from which may be deduced the relative value of different varieties of treatment, they lose much of their importance in view of the difficulties that environ all attempts at keeping such records with even tolerable precision."

We quote this sentence simply for the purpose of objecting to the assumption with which it commences. The statistics of Institutions are, as a general rule, false data upon which to found an opinion of the relative value of treatment. There is such a diversity in the regulations for the admission and discharge at different institutions, and, to a considerable extent, in the character of the cases received, that one would fall into a gross error were he to attempt to judge of the treatment of the patients by a comparison of statistics.

3d. At the Massachusetts State Lunatic Hospital, the number of patients, on the 1st of Dec., 1846, was as follows:—

	Male.	Female.	Total.
Whole number of patients - - -	200	167	367
Admitted in the course of the year - - -	105	135	240
Whole number during the year - - -	306	301	607
Discharged - - -	116	97	213
Remaining, Nov. 30th, 1847 - - -	207	187	394
Of the patients discharged, there were cured -	48	55	103
“ “ “ “ died -	18	12	30

Causes of Death.—Marasmus 3, apoplexy and palsy 5, epilepsy 5, consumption 4, disease of heart 1, suicide 2, lung-fever 1, dysenteric fever 1, diarrhœa 3, gastric fever 2, exhaustion 2, convulsions 1.

	Male.	Female.	Total.
Patients admitted from 1833 to 1847, inclusive	1433	1390	2823
Discharged recovered - - -	621	674	1295
Died - - -	-	-	243

This Institution is always “full,” and we were about to say, always being enlarged. “At no time in the year,” says the report, “have we had a spare room. Twenty-six, on an average, more than our whole number of rooms, have resided with us throughout the year.”

The system of moral treatment is, as it always has been, liberal and effective. Besides other means, a school for the patients was in operation in the winter. “Enough was done,” says Dr. C., “to satisfy us that a school for the Insane was practicable, and might be made useful to many. Some information could be obtained, and the minds of those who could be made interested in the business, would be kept active, and drawn off from their delusions for the time.”

This report contains an interesting table, showing the average duration of life, after becoming insane, of 219 patients, who have died in the hospital. The average duration, in 121 males, was 4 years, 10 months, 2 days; in 98 females, 4 years, 3 months, 12 days; and in both sexes, 4 years, 7 months, and 5 days.

It is comparatively but a few years since it was thought, that about one in each thousand of the population was a fair estimate of the proportion of persons insane and idiotic. Dr. C., in this report, says, in reference to Massachusetts,—“it is safe to predict, that an accurate census of the insane and idiots who are incapable of taking care of themselves, would show that there are as many as four to every thousand of the inhabitants of the commonwealth. And such, too, I believe to be the melancholy fact, in regard to their proportion in the neighbouring states.”

4th. At the New York State Lunatic Asylum, the number of patients on the 30th of Nov., 1846, was as follows:—

	Male.	Female.	Total.
Whole number of patients - - -	187	187	374
Admitted during the year - - -	219	209	428
Whole number - - -	406	396	802
Discharged and died - - -	175	155	330
Remaining Nov. 30th, 1847 - - -	231	241	472
Of the patients discharged, there were cured -	102	85	187
“ “ “ “ died -	27	21	48

“Seven died of consumption, 7 of general paralysis, 6 of epilepsy, 8 of diarrhœa

and dysentery, five—soon after admission—from exhaustion, following great excitement and the fatigue of the journey, 4 from apoplexy, 4 from marasmus, 2 by suicide, 2 by inflammation of the brain—a few days after reception, 1 by effusion on the brain, 1 by pneumonia, after profuse menorrhagia, and 1 from disease of the heart.”

Whole number of patients, from Jan'y 16th, 1843, to Dec. 1, 1847	1,609
Discharged, including deaths	1,137
Recovered	640
Died	114

Dr. Brigham refers as follows to a peculiar form of mental disease which, to use a homely but expressive phrase, has *bothered* other physicians as well as himself. It would, perhaps, be better for the patients attacked with this disorder, that they should not be removed from home; yet it is very difficult, unless one has had much experience, to discriminate between this and ordinary insanity.

“There is a kind of inflammation of the membranes of the brain, accompanied by derangement of mind, that is, we think, often mistaken for mere insanity. It usually assumes the form of maniacal excitement, sometimes preceded by a short period of melancholy, or depression of spirits. Patients affected by it, are remarkable for the rapidity of their movements, incessant talking, and sleeplessness. The pulse is frequent, but not hard or full: the tongue is coated, and the eyes often slightly suffused. Such cases often prove fatal very suddenly: and after death the pia mater and the arachnoid membrane will be found considerably more vascular than natural, and occasionally, some effusion of serum will be observed. Death does not seem to result from inflammation,—but from the exhaustion and sinking of the vital powers, after long-continued excitement, agitation and sleeplessness. Bleeding in this disease is, we believe, always injurious, and probably no method of treatment will frequently be successful; but when it attacks, as it most frequently does, females who are delicate and feeble, or men whose constitutions are impaired by intemperance,—stimulants, with seclusion and quiet, will sometimes effect a cure.”

With the subjoined observations upon blood-letting in insanity, as that disease is presented to the officers of public institutions, it is believed nearly, if not quite, all of those who have the medical direction of Asylums, will fully coincide.

“The treatment of insanity by bleeding, though strongly recommended by Dr. Rush, and some others, we believe to be generally improper, and frequently very injurious. Sometimes, as we have stated, it appears to produce a fatal result, and we are confident that it not unfrequently renders cases incurable. Some physicians appear to consider great maniacal excitement, vociferation and violence, as sufficient evidence of inflammation to have recourse to general bleeding; but, as we have said, this is usually a sad mistake. So frequently have we seen bad results from bleeding copiously in the commencement of insanity, that we are strongly inclined to limit the resort to it, to those cases that occur suddenly, in robust persons, with a hard or a full, strong pulse, redness of the eyes and face, and other well-marked symptoms of inflammation of the brain, or its membranes. *No regard whatever should be paid to the mere excitement and violence of the patient, as furnishing indications for bleeding.*

“That bleeding is sometimes serviceable and necessary at the commencement of insanity, we do not doubt; but of this we are confident, if a patient actually requires bleeding, in consequence of the inflammation of the brain or its membranes, then he requires to be kept still, and will be greatly injured by travelling. * * * * When, however, sufficient time has elapsed, after a person becomes deranged, to render it evident that the case is one of insanity, unaccompanied by acute disease, then, we think, as a general rule, the sooner he is removed from his home to an asylum, the better.”

The system of moral treatment at the Utica Asylum, is very elaborate, the forms of occupation various, and the other means and facilities as diversified as, perhaps, at any institution in the country. Within the last year or two, theatrical exhibitions have been introduced. “These performances,” says the report, “are held in one of our long halls, which, being very wide and high, with rooms each side, is admirably adapted for such exhibitions. A handsome drop-curtain has been

painted by a patient, representing a view of the Coliseum at Rome, with gladiators in front, and in contrast, a view of our Asylum, with ladies dancing and promenading near it. A large number of patients, with resident officers, attendants and assistants, have attended these exhibitions, and occasionally, the managers of the asylum with their families, and a few ladies and gentlemen from Utica, have been present, and been much interested and surprised at the good order and ability exhibited.

"No evils whatever have resulted from our schools, exhibitions and the other mental exercises which we have mentioned; but, on the contrary, much good has been the consequence. They have interested and benefited us all—the officers, assistants and attendants, as well as the patients themselves; and served to make a residence here more pleasant and useful to us than it otherwise would be. It has ever been our policy to make the asylum the *home*, and the chief place of interest for all in our employ; and among our large number of patients are always many individuals of education and ability, who, when convalescent, are very willing to unite in contributing to the improvement and enjoyment of all."

Extensive additions to the buildings of this asylum have been completed during the past year, and the apartments thus supplied are rapidly becoming occupied.

5th. Agreeably to an ordinance of the Common Council of the city of New York, passed in the autumn of 1847, the Lunatic Asylum on Blackwell's Island has been relieved from its official dependence upon the Almshouse, and made, so far as the management of its patients is concerned, an independent institution.

According to the report before us, the number of patients on the 1st of January, 1847, was as follows:—

	Male.	Female.	Total.
Whole number of patients - - -	171	212	383
Admitted during the year - - -	201	195	396
Whole number during the year - - -	372	407	779
Discharged and died - - -	212	203	415
Remaining January 1st, 1848 - - -	160	204	364
Of those discharged there recovered - - -	-	-	194
“ “ “ died - - -	79	74	153

Of the cures, 47 were cases of delirium tremens.

Causes of Death.—"General debility 25, dysenteric diarrhœa 33, chronic diarrhœa 26, apoplexy 2, congestio cerebri 12, epilepsy 10, dry gangrene 1, paralysis 4, chronic bronchitis 1, erysipelas 1, phthisis 25, intussusceptio 1, organic disease of heart 2, ramollissement of the brain 1, feb. typhoid 6, old age 3."

"The number of deaths," says the report, "has been large. Various causes have been operating to swell the table of mortality. This Institution, connected, as it is, with the Almshouse Department, becomes the receptacle of many incurable patients, who are sent here to remain until death puts an end to their sufferings.

"If the incurable insane alone were sent here, the cause of complaint would not be so great: but there are many cases of febrile delirium, resulting from other diseases, which are sent to the asylum expressly to die. Few diseases terminate in death without affecting the mental faculties, and to the casual observer may be mistaken for mania. A little attention to the previous history of the case is necessary to distinguish the one from the other. 'Mania exists alone and independent of any other disorder, while delirium is only an unessential symptom of some other disease.' Some cases of febrile delirium have died within a few hours, and many during the first week after admission. During the past summer, there have been received five cases of ship fever, in the early stage of the disease, properly attested as being genuine insanity, showing conclusively the careless manner in which examinations for commitment are occasionally made.

"Another cause for the large number of deaths has been on account of the prevalence of ship fever."

"During the year 1846, but seven patients were transferred from Bellevue to this Asylum, while during the past year, fifty-nine have been received from that place, and the almshouse on Blackwell's Island. Many of these patients were

suffering from the effects of ship fever, which had left them in a state of extreme debility, complicated with diarrhœa, and a large proportion of the number died.

"The principal acute diseases have been dysenteric diarrhœa, and feb. typhoid (ship fever).

"Of the last-mentioned disease there have been thirty-four cases, occurring among patients who had been in the Institution a long time, and for this reason treated here, of which only six died."

We have thus quoted in full the explanation given by the report for the enormous bill of mortality during the year. Without doubt, the number of deaths has been, to some extent, improperly increased from the sources to which this explanation alludes. But, after all, the grand cause for this startling fatality has not been even hinted at in the attempted explanation. This cause is the improper treatment of the patients—improper, in crowding them together in such numbers that two or more occupy the space sufficient only for one—improper, in giving them neither sufficient exercise nor a diet so nutritious as the preservation of their health requires—improper, in not supplying them with sufficient attendants, either of nurses or of medical officers.

In the spring of 1847, the writer of this notice visited the Institution in question, and passed through one of its male wards, itself damp and dirty, where the patients were so numerous, standing, sitting, and lying upon the floor, that he was obliged to *thread* his way among them, and *yet they had not been out of doors during the whole winter*. Their personal appearance was as wretched as was their position. *There is the secret of the long roll of deaths. That accounts for the upwards of one hundred fatal cases included under the four heads—"general debility," "dysenteric diarrhœa," "chronic diarrhœa," and "phthisis."*

In regard to the alleged want of attendants, the report itself bears testimony so far as relates to the nurses.

"There are only five regular attendants for the whole number of inmates.—*Each attendant has from seventy-five to eighty patients in charge*, assisted by prisoners from the penitentiary.

"At the commencement of the year, there were nineteen of this class (prisoners) in the various wards, but the number was gradually diminished, so that, for the last six months, only nine have been employed, and those principally in keeping the rooms in proper order. It is unnecessary to remark that these prisoners are wholly unfit to have in charge the insane; they cannot be made to comprehend that kindness is to be the restraining power. Since the number was diminished the patients have been more quiet, and better order has prevailed in the halls, as lunatics who are convalescing make better assistants than Penitentiary *help*."

We would here enter into more details in relation to this Institution, were it not that the report next to be noticed will continue the subject before us. It is due to Dr. Ranney to state that, during almost the entire year, the history of which is included in his report, he was a subordinate officer, subject to the direction of the superintending physician of the almshouse.

6th. According to the ordinance already mentioned, by which the government of the asylum on Blackwell's Island was rendered independent of that of the almshouse, four physicians were to be elected to act, in rotation, as visiting medical advisers. Drs. Williams, Macdonald, Ogden and Earle were appointed to this office by the Common Council in October, 1847; but in the early part of 1848 the last-mentioned resigned.

The report before us is dated March 16th, 1848. After giving an historical sketch of the measures for the relief of the insane paupers of New York, it proceeds with an account of a visit to the Institution, made by the visiting physicians in company on the 25th Nov. 1847. From this we are constrained to make a liberal extract for the purpose of illustrating *the results of making the offices in public Institutions a part of the spoils to be gained by political partisanship*.

"We found 375 patients under the care of one resident medical officer, who, in addition to his strictly professional duties, had to act as apothecary.

"The only portions of the original plan of building finished (the north octagon and the north-west wing), were found not only fully occupied, but crowded. The first and second stories of the wing, (the only parts primarily designed for

the occupancy of patients,) if they had not been crowded, would have been considered comfortable. The ceilings are high, the main halls cheerful, the rooms opening into them on either side ample for single patients, and the whole, excepting the small cells at the west end, for disorderly patients, were cleanly and in good order. Both these stories were occupied by females. The basement or ground floor, originally destined for store rooms, &c., was found occupied by men, damp, ill-ventilated and gloomy. *Many of the inmates were consequently sick with dysentery, diarrhœa or fever, several years' experience having fully demonstrated, what was anticipated, when the building was first planned—that its basement is decidedly unhealthy. Most of the cases of fever and diarrhœa which have prevailed at the Asylum, originated here;* and when the present resident physician first took charge of the Institution, he found no less than 25 or 30 patients suffering under scurvy."

"The Asylum, though generally well built, shows a want of attention to repairs, which no judicious house owner would consider it good economy to permit. In well-arranged asylums, it is considered necessary that the patients of each distinct class should have an airing-yard, to which they may resort at all times during the day, without hinderance. There are no yards attached directly to the asylum on Blackwell's Island, but there are two small enclosures, at the distance of about two hundred and fifty feet from the Asylum, surrounded by a fence ten feet high, which effectually cuts off the fine views for which this part of the island is remarkable. To remedy this, a platform was erected in each yard nearly as high as the fence, which the patients might mount and enjoy the prospect, but this has now become so dilapidated as to be quite useless. The patients are taken by their keepers into these enclosures, locked up, and left to themselves, without occupation or amusement, and without the ability of looking upon one of the most beautiful scenes that can be found in the vicinity of New York. From these places they are conducted back as they were taken out, and confined to the house. In the finest weather, it cannot be supposed, with the limited* number of keepers, that the patients can enjoy even this poor recreation more than twice a day, while in cold and stormy weather they must be entirely deprived of it.

"The building known as 'The mad house,' standing on the water's edge, about 150 feet east of the Asylum, was found considerably out of repair, badly adapted to its purpose, unmeasurably crowded, imperfectly ventilated, and extremely offensive. This house, which is about 36 by 80 feet, and three stories high, *not much larger than an ordinary three story dwelling, contained no less than 113 patients!* The first floor was appropriated to men, *of whom 19 were white and 12 coloured, total 32.* The second and third stories were occupied by women, *of whom 78 were white and 3 coloured, total 81.* For this number of patients, there were 24 cells on the second and 18 on the third floor, *making about two occupants for each cell of 4 by 9 feet.* The water closets of each story had no head of water to carry off their impurities, and were consequently very offensive. For this large number of patients there were found no airing yards. The two which had been originally prepared, being miserably small and without prospect, had become so dilapidated as to forbid their use. After examining this part of the establishment, we could not but agree that its name 'Mad House,' was well applied, for there was *madness* in its conception, *madness* in its completion, and *madness* in its continuance. It was certainly more full of *madness* and better calculated to perpetuate *madness* than any house we have ever examined.

"If the condition of the house itself were unsatisfactory, that of its inmates was much more so. The first visits of inspection were among the most painful duties of our lives. Notwithstanding the faithful exertions of the resident physician, idleness and confusion seemed to pervade the establishment. Three hundred and seventy-five patients, eight or nine-tenths of them being incurable, were confined in a space not too large for two hundred, without regular treatment, occupation or classification. They were accumulated in large numbers in the halls and lobbies. In one place, the floor was covered with them; in another, which was a small passage, warmer than the rest of the house, and about 16 feet long by 3 or 4 wide,

* "To show how much the Asylum stands in need of suitable nurses and attendants, it may be mentioned that the resident physician has detained 20 patients, after their recovery, to do the work of the house, rather than employ prisoners."

we saw 25 women sitting or lying on the floor, and almost covering it, and in an adjoining cell of the smallest size, 3 or 4 more in the same posture. We observed in the basement, a number of men confined to their beds with fever and diarrhœa, their rooms badly ventilated and offensive: in the 'Mad House,' 113 crowded into a space not large enough for half the number, 14 confined to cells, 3 or 4 restrained by iron hand cuffs, and one with a strait jacket; there being only one penitentiary convict to take charge of 32 men, and one woman to manage 82 female lunatics, with no yard for exercise or change of air; but all confined to the house; all idle, some excited and noisy, singing, chattering, or raving; others moping and listless, reminding us of the descriptions of mad houses in the last century, and in countries not yet enlightened by Christianity and civilization. The air of this house, particularly of the upper story, was very offensive. The beds throughout the whole establishment were of straw, and not sufficiently covered, most of them having but a single blanket. The patients were confined in the yard of the main building, without prospect, object, occupation or amusement; and without any attendant constantly present to supervise them; some lounging or walking about, others lying or sitting on the ground, some bare-footed, and many ragged.

"But that which struck us most forcibly, was the idleness that pervaded every part of the establishment. Idleness in the sane, all will admit, leads to vice: with the insane it tends to the worst consequences. Man permanently deprived of reason, and impelled only by his animal instincts, uniformly degenerates, unless guided and sustained by the intelligence of others. Lunatics assembled together in large numbers, and neglected or maltreated, form the most painful of all human spectacles; but if properly treated and occupied, may be made agreeable and even useful members of society.

"In thus expressing ourselves frankly with respect to the state of the Asylum as it was found in November, we do not wish to be considered as attaching blame to the resident physician, who, we believe, did all he could, with the means in his power, for the good of his patients. We throw the blame on the imperfect organization of the whole establishment; the want of room, the absence of classification, the deficiency of attendants, male and female; in fine, the destitution of all those aids and conveniences which the superintendent of every lunatic asylum requires, for the satisfactory performance of his duties."

The fact here related requires no comment.

The report proceeds with an argument showing the importance of a more liberal expenditure for the support of the Asylum, and concludes with a series of *recommendations* for the general improvement of the institution. Whether these will ever be heeded or not remains to be seen. The attending physicians and the superintendent have already done much towards ameliorating the condition of the patients, and the aspect of the establishment has been greatly improved since the new organization of the official department went into operation.

7th. The number of patients at the Bloomingdale Asylum for the Insane

on the 1st of January, 1847, was	-	-	-	-	131
Admitted during the year	-	-	-	-	143
Whole number during the year	-	-	-	-	274
Discharged and died	-	-	-	-	129
Remaining December 31st, 1847	-	-	-	-	145
Of the patients discharged, there were cured	-	-	-	-	58
" " " " died	-	-	-	-	13

"Five of those who died were alarmingly ill when they were received, and neither of them lived more than fifteen days after admission.

"Of the admissions, thirteen were cases of delirium tremens and habitual inebriety, and twelve of the cures were of the same class.

"The number of patients," says the report, "is now and has been throughout the summer and autumn, as large as the Institution will accommodate consistently with comfort and judicious management."

8th. At the Pennsylvania Hospital for the Insane, the number of patients					
on the 1st of January, 1847, was	-	-	-	-	161
Admitted during the year	-	-	-	-	240
Whole number for the year	-	-	-	-	401
Discharged and died	-	-	-	-	213
Remaining 31st December, 1847	-	-	-	-	188
Of the patients discharged, there were cured	-	-	-	-	111
" " " " died	-	-	-	-	29

"Of these cases of recovery," says the report, "one had been insane nearly eight years, and had been an inmate of this Institution nearly six. This fact is noticed here, not only on account of the very pleasant and unexpected result in a valuable individual, but as encouragement for perseverance by the friends of patients. It was one of the class of cases where, even with the most unfavorable train of symptoms, it is not possible to say, with entire certainty, that the individual is incurable. The occasional occurrence of such cases is among the strongest arguments against Institutions for the supposed incurable alone, and teaches how very important it is, that the chronic insane should always be kept surrounded by everything that would seem to offer any aid to their restoration."

Dr. Kirkbride, like some other physicians occupying similar situations, is subjected to the annoyance of seeing some of his patients prematurely removed from under his care. The number thus taken away during the past year is twenty, of whom it is supposed that ten would have recovered had their treatment not been interrupted.

	M.	F.	Total.
Whole number of admissions from 1841 to 1847 inclusive	663	513	1176
Discharged or died	566	422	988
Of which there were cured	298	215	513
" " " died	62	51	113

We have, in some Medical Journal, seen it asked whether the blind ever became insane? and recently a similar question has been asked in reference to the deaf and dumb. The following extract from this report will answer both of these queries.

"A gentleman, of great private worth, and distinguished for his scientific acquirements, but deaf and dumb from birth, after laboring for many months under unequivocal symptoms of mental derangement, was compelled to enter the Hospital; and a young lady, blind, at least from early infancy, having an acute attack of mania, has been among the number of our patients. A still more striking combination of afflictions, however, occurred some time since in a boy, whom the writer had had occasion to see frequently, and whom, at one time, it was proposed sending to this Institution, who, blind from birth as believed, subsequently lost his hearing completely, then the power of speech, and after some interval, unmistakable indications of insanity were manifested, by acts of the most violent and singular character."

At the Bloomingdale Asylum, New York, there is now a young man, who is deaf, dumb and insane, and within the last four years there have been two blind persons among the patients; in one of them, however, and perhaps in both, the blindness was not congenital. One of the men patients, who was about three years ago an inmate of the same Institution, had two deaf mute sisters who were insane.

The following remarks of Dr. K. are from that section of the report devoted to moral treatment.

"As already remarked, we still have occasional musical and social parties for patients of both sexes, but less frequently than formerly—the lectures and exhibitions being found to be an excellent substitute, and I am disposed to believe, upon the whole, much more useful; although the former, held occasionally, make a pleasant variety. The lectures and exhibitions enable patients to pass the time pleasantly, give them some mental employment, with an opportunity of acquiring useful information, and without any risk of undue excitement. It is not always easy, in a large and indiscriminate assemblage of patients and attendants, to pre-

mote exactly the degree of hilarity and excitement that is useful or desirable. Cheerfulness is at all times to be desired in a hospital for the insane, but levity is neither useful nor becoming in such a position, and some well-disposed persons do not seem able to discriminate between them. Any kind of assemblage that produces much excitement or undue levity of behaviour in those participating in it, is, as a general rule, objectionable and hurtful in such an institution."

For some years past it has been a favourite idea with some of the physicians connected with institutions for the insane, that the construction of small cottages, detached from the main buildings of an Asylum, would improve the establishment by thus affording quiet and secluded accommodations for such as could appreciate them. Dr. K. has at length succeeded in carrying this plan into execution, by the construction of a building, one story high, forty-six feet long, by twenty-five wide, with a piazza or portico seven feet wide, extending the whole length of its front. It contains a parlour twelve by fifteen feet, two patients' rooms, fourteen by fourteen feet, and two rooms for attendants seven and a half by fourteen feet: the ceilings are twelve and a-half feet high. "All the windows have inside shutters, the floors are neatly carpeted, the whole is furnished in good style, and has the air of a neat and comfortable private residence."

Dr. K. does not appear to think that it would be judicious greatly to multiply this class of buildings, and in connection with the subject makes the following remarks:—

"Although a limited number of patients, *much fewer than is generally supposed*, would really be benefited by being accommodated in detached cottages, and while the feelings and means of the friends of others might make such provision an essential element of their coming to a hospital at all, still it scarcely admits of a doubt that the great majority would derive no advantage from such an arrangement, and that they would really do better, be more comfortable, and probably recover sooner in regular wards, where the classification and discipline are good, and the attendance of the best kind."

9th. At the Ohio Lunatic Asylum the number of patients, Nov. 15th, 1846, was as follows:—

	Male.	Female.	Total.
Whole number of patients - - -			291
Admitted in the course of the year - - -	90	91	181
Whole number during the year - - -			472
Discharged and died - - -			143
Remaining Nov. 15th, 1847 - - -	167	162	329
Of the patients discharged, there were cured -			90
" " " " died -			23
Whole number of cases admitted in nine years	551	496	1047
Whole number discharged recovered -			448
" " " died -			115

Causes of Death.—Inflammation of the liver 1, dropsy 4, inflammation of the brain 4, fever 10, apoplexy 5, consumption 15, palsy 6, epilepsy 16, marasmus 14, diarrhoea 13, dysentery 13, inanition 9, atrophy 4, erysipelas 1.

In reference to recoveries at different periods of life, Dr. Awl, after quoting the opinion of Esquirol and of Burrows, says: "Recoveries are unquestionably most numerous between the ages of twenty and thirty, because at that period we have the largest number of admissions, at least on this side of the Atlantic. But according to our statistics, now extending beyond one thousand cases, the *per cent.* of recoveries is certainly greatest in those who exceed the fortieth year. And we find a similar conclusion in the published records of the State Lunatic Hospital in Massachusetts."

The fact here asserted is interesting, and will probably elicit farther observation upon the subject. Is it not probable that among the patients over forty years of age there are more cases of second attack or recurrent insanity than among those who are under that age? We should feel better satisfied if the *per centage of persons*, rather than of *cases*, was given.

During the past year an additional building has been appended to this Asylum.

"It is one hundred and fourteen feet long, thirty-six wide, and three stories in height, and contains a washhouse, ironing and drying rooms, a bakery, an engine-room, sundry sleeping apartments for assistants, and a chapel.

This Institution has always been ably managed and deservedly ranks among the best in the country.

10th. The statistics in the report of the Lunatic Asylum of Tennessee, include a period of two years. The number of patients at the commencement of that period was as follows:—

	Male.	Female.	Total.
Whole number of patients - - -	32	17	49
Admitted in the course of two years - - -	36	15	51
Whole number - - -	68	32	100
Discharged and died - - -	24	12	36
Remaining Oct. 1st. 1847 - - -	44	20	64
Of the patients discharged, there were cured	31	7	20
" " " " died - - -	4	2	6

"Three or four of those patients noticed in the foregoing statement as having been *discharged cured*, are yet within the Institution, awaiting their removal at the hands of their friends."

This Institution has been in operation several years, but so far as we can learn, it has ever been and still is almost entirely devoid of all those means and appliances for physical comfort and for moral treatment which are now considered essential to a respectable Asylum for the Insane. It would appear to be a mere house of detention, rather than a curative Hospital, and that, aside from purely medical treatment, the patients who recover must have got well in spite of their situation, rather than as a consequence of it. As proofs of this supposition we make the following extracts from the report.

"The whole of the building is not more than adequate for the accommodation of forty-nine patients. The number has at times exceeded sixty, and at present consists of about that number (as appears by the above statistics there were sixty-four). The number of male inmates at this time is forty-six (according to the statistics forty-four), whilst there are in that wing of the building set apart for their use, but twenty-one rooms. Hence the impossibility of so classifying and arranging them that each may receive the treatment best adapted to his case. * * * * * The means at the disposal of the Institution only enable it to employ two male attendants and one female. It must be obvious to any one that such a number is wholly inadequate to the proper discharge of the duties devolving upon them."

"I beg leave," says Dr. M'Nairy, "to reiterate the observations made in my former report, in relation to the use of cells, for the confinement of furious maniacs. Those belonging to this Institution *being under ground, and not susceptible of ventilation*, are wholly unfit for the habitation of human beings; and even supposing them to be of value, as places of temporary confinement, they are, nevertheless, utterly useless for any remedial purpose."

"* * * * * During a considerable portion of the year we have not water even to drink, to say nothing of the large quantity wanted for culinary and other purposes."

"The undersigned (Dr. M'Nairy) also feels it his duty, in as emphatic a manner as he can, to call attention to the *utter absence of all means in the institution of indulging the patients in any healthy and innocent amusements and recreation*. Confinement here may be set down as little better than solitary. The patient is secluded from the world, debarred access to everything calculated to remind him that life still has pleasures, and society its allurements, and in fact, the dull and monotonous existence led within our walls, *is calculated rather to canker and craze the sane mind, than to restore to sanity that which was already sunk under its trials.*"

It would not be necessary to adduce farther evidence in proof of the utter unfitness of this receptacle as a curative establishment for the insane. It cannot be that an Institution so devoid of the means for accomplishing its end will long be tolerated. Dr. M'Nairy proposes that the present buildings be abandoned, and that new ones be erected at some place where all the modern improvements can be introduced. The legislature of the state, if properly enlightened upon the subject, will undoubtedly authorize this plan to be put into execution.

11th. The report of the Lunatic Asylum of the State of Georgia includes a period of two years, ending on the 25th of October, 1847. At the beginning of this term the number of patients, according to the statistics given in the report, appears to have been

Admitted in the course of two years	-	-	-	-	-	60
Whole number	-	-	-	-	-	71
" Discharged"	-	-	-	-	-	131
" Eloped"	-	-	-	-	-	22
" Died"	-	-	-	-	-	6
	-	-	-	-	-	27

The number of cures is not stated, and the only remark we find in the report, in reference to the subject, is as follows:

"The number of our patients restored, has been, in proportion to the whole number in the Institution, small; but in proportion to the cases that can be regarded as curable at all, it is, in view of all the circumstances, quite equal to any reasonable expectation."

"The number of deaths," says Dr. Green, "during the past two years, (three of which occurred prior to my taking charge of the asylum,) would be likely to strike one uninformed in relation to the nature of the cases, as disproportionately large, but such will inevitably be the result in the earlier years of any institution, where all classes and conditions are received, and where, from the influence of a variety of causes, a large number are sent to the Asylum, only because they have become mentally and physically a burden too intolerable to be longer borne; and one-half of the deaths were cases of epilepsy, a disease rarely ever cured, and the combination of lunacy and epilepsy, never. Many are positively in *extremis* when brought to the Asylum, and have not survived a month."

The means for classification and moral treatment seem to be still deficient at this Asylum. Improvements, however, have been made since the present zealous and efficient superintendent was appointed, and under his care it may reasonably be expected that the Institution will flourish and assume a higher rank than it has hitherto sustained.

12th. For several years past, Dr. Edward Mead, a professor in the Medical Department of Illinois College, has taken an active interest in the condition of the insane in that State. He ascertained that there were about three hundred persons in the State who were suitable subjects for an institution devoted to the treatment of mental diseases, delivered an address upon the subject to the people of Jacksonville, made an appeal to the governor and physicians of the State, and presented a report, at the request of a select committee of the Senate, to that branch of the Legislature. These efforts, together with those of Miss Dix, resulted in a legislative act authorizing the establishment of a State Hospital for the Insane. Dr. Mead also concluded to carry out an intention which he had entertained for several years of establishing a private institution of a similar kind. He accordingly opened a temporary establishment, at Chicago, and received the first patient in August, 1847. At the time of the date of the report (Feb. 1848), fifteen patients had been admitted. Of these, five had been discharged cured, one had died, and nine remained:

"The site selected for the permanent edifice comprises twenty acres of land, situated two miles north of the city, and half a mile north of the lake shore. The edifice will be an elegant and commodious structure, built of stone, in the Norman Gothic style of architecture, and in its interior arrangements adapted to the peculiar wants of the insane. When completed it will be sufficiently capacious to accommodate 130 patients. A part of this permanent edifice is expected to be in readiness for the reception of patients early in the ensuing spring.

No report has hitherto emanated from the Butler Hospital, at Providence, R. I., or the State Lunatic Hospital, at Trenton, N. J., both of which have been opened within the past year.

P. E.

ART. XX.—*Medical Chemistry, for the Use of Students and the Profession: being a Manual of the Science, with its applications to Toxicology, Physiology, Therapeutics, Hygiene, &c.* By D. P. GARDNER, M. D., formerly Professor of Chemistry in Philadelphia College of Medicine. 1 vol. 12mo. pp. 396. Philadelphia: Lea & Blanchard, 1848.

MANUALS and Systems of Chemistry have been offered to the profession in sufficient numbers to suit the tastes of all, but a strictly medical chemistry has yet been a desideratum. To fill this void, and to direct attention to the intimate connections between chemical and medical science, has been the endeavour of the author in the production now before us. In a work comprised within 400 duodecimo pages, it cannot be expected that the whole of these relations should be embraced, or that minuteness of detail could be admitted, even in those portions which the author has conceived to be of most importance. Accordingly, we find that the chemistry of the metals occupies but a small space, while that of organic compounds comprises nearly one-third of the whole work. Commencing with the imponderables, the author gives a succinct and clear account of the laws and phenomena exhibited by this class, interspersed with occasional illustration and application, interesting and important to the physician and student, and concludes each division by a general application to the different branches of medical science. Caloric thus has its laws unfolded; and then the relations of heat to climate, to animals and plants, to man, and to therapeutics, pass in review; and its important connections not only with health and disease are pointed out, but with animal and vegetable organization and nutrition, together with its application as a remedial agent, and the principles on which it acts. The same remarks apply to light and electricity, in which the latest observations of Matteucci and others, and their views with regard to the physiological relations, are noticed. The general laws of chemistry are considered with more detail. Constantly keeping in view the relations to medicine, the subject of isomorphism gives rise to comments on the agreement in therapeutic action of compounds similarly constituted, with reference to experiments confirmatory of the remarks; while catalysis affords a similar opportunity, in relation to morbid and therapeutic actions. Most of the non-metallic bodies, together with arsenic and antimony, and their more important compounds, are noticed with sufficient detail, for the appreciation of their relations to physiology, toxicology and hygiene, avoiding for the most part such subjects as are especially to be found in all works on general chemistry and the *materia medica*. Organic chemistry is treated not in its whole extent, but by a judicious selection of subjects, and their relations to vegetable and animal physiology, embodying the results of the latest German and French investigations, up to the time of its publication, presenting in a clear and connected manner, an interesting survey of the science, and rendering appreciable the great advance which has been made within a comparatively short period. In closing these remarks, we would suggest to the author, that, in the next edition, notes be appended to the most recent investigations, referring to their sources, that the student may be enabled to acquire in detail information not yet familiar to all. The subject of ventilation, with its relations to hygiene and therapeutics, although it has attracted considerable attention, is yet but inadequately appreciated or understood, and would form an appropriate subject in connection with the remarks on the atmosphere, without much increase in the bulk of the volume.

The mechanical execution of the work is creditable to the publishers, the paper good, the type clear and sufficiently large for the size of the work. R. B.

ART. XXI.—*A Dispensatory, or Commentary on the Pharmacopæias of Great Britain and the United States, comprising the Natural History, Description, Chemistry, Pharmacy, Actions, Uses and Doses of the Articles of the Materia Medica.* By ROBERT CHRISTISON, M. D., V. P. R. S. E., &c. Second edition, revised and improved: with a Supplement containing the most important new Remedies, with copious additions, and two hundred and thirteen illustrations. By R. EGLESFELD GRIFFITH, M. D., &c. 1 vol. 8vo. pp. 1008. Philadelphia: Lea & Blanchard, 1848.

THIS American reprint of the extensive work of the eminent Scotch pharmacologist, like its two congeners, treats copiously of the remedial agents embraced by the *Materia Medica*, and with the London and United States, constitutes the trio in the English language, designated as Dispensatories—now in full career of popularity. All three are professedly exponents of the several Pharmacopæias appertaining to the kingdom of Great Britain. The United States Dispensatory, however, has given prominence to our own authority, and made the others secondary, while in the original publications of London and Edinburgh, our standard is either altogether neglected, or but transiently referred to. The present edition of the work under consideration has the deficiency supplied by the labours of the editor.

We have always considered it extraordinary that, while three Pharmacopæias existed in Great Britain, and two of them possessed a peculiar advocate and exponent in the form of a Dispensatory, the remaining one, the Dublin, had not a corresponding accompaniment. Irish medical talent is certainly equal to the undertaking. In government, we are aware that English, Scotch and Irish policy, and schemes of national advantage, are widely different. This may be comprehended by reference to circumstances of a local character, and hereditary prejudices, and we are not disposed to discuss whether or no a moral difference exists, sufficient to give rise to modifications of law and equity: but that the disparity in physical traits is so decided as to call for a difference in the preparation of purgatives, diuretics, &c., appears to us an indubitable fallacy. One method of dosing might suffice for all, and the experiment ought at least to be tried, by framing a national British Pharmacopœia.

Christison's Dispensatory was first issued in 1842, and may be regarded as the successor to the New Edinburgh Dispensatory of Dr. Duncan—a work which began its career in the first year of the present century, and terminated with the eleventh edition, in 1826. This latter work also formed the basis of the American Dispensatory by Dr. Cox, which commenced in 1806, and ended with the eighth edition, in 1830. The second edition of Dr. Christison's work, which is the one now published, has been enriched by such information as discovery in science has afforded within the past six years. It has been posted up to the present time, and thus again offered to the profession: in this country, with the additions of the American editor.

The first portion, termed the Introduction, is devoted to the processes of pharmacy. The principles of pharmacy are here succinctly laid down, and each form of exhibiting medicines clearly made known and discussed. Where chemical apparatus is required for the formation of particular preparations, a drawing of the utensil employed is frequently given. In this chapter, weights and measures are duly set forth and explained, and to it have been added by the editor, Dr. Griffith, a chapter on specific gravity, with ample tables of the density of various fluids and preparations; an exposition of thermometrical equivalents, with full tables exhibiting relations on the different scales, the effects of temperature, symbols, solubility of salts, and an explanation of terms used in prescriptions, from Gray's Supplement to the Pharmacopœias.

The *Materia Medica* proper commences in the usual way, the alphabetical arrangement being followed, which seems, time honoured, to be inseparable from a dispensatory. The information imparted under each head, is that found in the more recent treatises on the *Materia Medica*. Where articles are derived from the vegetable kingdom, the plants affording them are referred to their appropriate natural history position under classes and orders, but few botanical details are

indulged in. Medical botany is of secondary consideration, and the author is no doubt impelled to this by the full instruction which Scotch students receive in that department, and the co-existence of the admirable treatise on the subject by Dr. Lindley. The account of drugs met with in the English market is clear and concise, and their chemical constitution correctly given, in accordance with the most recent analyses.

There are certain subjects to which Dr. Christison appears to have given especial attention; the chapters upon these are peculiarly rich with information. Conium is one of them, which by him has been experimented on. The test for the activity of this drug, which originated with the Edinburgh College, is invaluable, we mean that by liquor potassæ. Another of these is scammony. Dr. Christison's investigations into the purity of this drug, have presented the subject in its true light, and shown that the grossest impositions have been practised. Sophisticated scammony is most common in the English market, and by the author has been divided into three kinds, which are termed *calcareous*, *amylaceous*, and *calc-amylaceous*. The worst of the specimens contained by analysis 42.4 per centum of resin. Bad as these may be, they must be decidedly active when compared with the stuff designated as scammony, and sold as of *first quality* in the United States. One lot which was extensively distributed, and which during the past year fell under our observation, contained but 6 per cent. of resin; the basis of it was gum tragacanth. The moral sense of the drug-community must either be greatly depraved, or else extreme ignorance prevails in it, to tolerate such imposition. The recent act of Congress with regard to adulterated and spurious articles, will, we hope, aid and facilitate the exposure of all such imposition.

For the chemical examination of articles employed in medicine, we are indebted to European, and more especially, to continental experimenters. The rich reward of fame is justly due the chemists who have zealously and indefatigably laboured in this field of research; a few laurels, however, might be awarded those who in this country have manifested a similar spirit, and really have contributed their quota to the progress of analysis. We are prompted to this reflection from the examination of the article on Lobelia, in which not one word is mentioned of the researches of Mr. Procter, although he, at least ten years back, satisfactorily isolated the principle upon which the activity of the drug depends, and by a continued series of experiments since, has studied its characters and properties. His papers are published in the American Journal of Pharmacy. We might excuse Dr. Christison for such omission, but in the reprint justice should have prompted, as well as policy suggested, the completion of the chemical history.

Upon turning over the pages some slight errors are observable, as for instance, in attributing the Tahiti arrowroot to *Tacca pinnatifida*. Mr. Nuttall, several years ago, described the plant affording Sandwich Island arrowroot, and gave to it the name of *T. oceanica*, because so widely differing from the Asiatic species as to constitute a different one.

The Dispensary issued on this side the Atlantic, differs from the original Edinburgh edition in the addition of numerous illustrations, which, with the specification of the processes of the United States Pharmacopœia, its nomenclature, and an account of indigenous products, constitute the labours of the editor. The book, then, is replete with valuable information; it is one of the standards of the day; and as such, must meet with the favour it deserves.

J. C.

ART. XXII.—*Lead Diseases: a Treatise from the French of L. Tanquerel des Planches, with Notes and Additions on the Use of Lead Pipe and its Substitutes.* By SAMUEL L. DANA, M. D., L. L. D., p. 441. Daniel Bixby & Co., Lowell, 1848.

THIS most important and valuable work contains a great amount of information which is accessible to the members of the profession nowhere else, and which it is dangerous for them to be without. It is much to be regretted, that the original work of Tanquerel, with the observations of Dr. Dana, and of many physicians, both abroad and at home, had not sooner been made public, and urged upon the public attention in this country. But, better late than never. We are entirely

satisfied, from our own experience and inquiries, that there is an immense and a daily increasing amount of disease in various parts of the country, the cause of which is overlooked or unknown, and which is occasioned by the poison of lead. With the light now shed upon this subject, it will be the fault and the blame of physicians, if this prolific source of suffering and ill health is allowed any longer, through ignorance or inattention on their part, to exist.

We do not propose to enter upon any systematic review of the work of Tanquerel and Dana, or to give any detailed synopsis of its contents. The late period at which it was received, if there were no other reasons, would deter us from either of these undertakings. But there are other reasons. The contents of the work are so multifarious as to defy any satisfactory analysis within reasonable limits, and they are so important that every physician is bound, by all the obligations of duty and of interest, to make himself thoroughly acquainted with them by direct reference to the book itself.

Tanquerel's treatise, in two volumes, containing about eleven hundred pages, was published in 1838. It received in 1841, from the Royal Academy of Medicine, the Montyon prize of 6000 francs. Dr. Dana says of his own volume, that it is both a translation and an abridgment. In condensing the original, he has aimed to give faithfully the meaning of his author, without confining himself to a simple rendering of his language.

The body of the work is divided into five parts, devoted respectively to the following subjects, to wit:—*Lead Colic*; *Lead Arthralgy*; *Lead Paralysis*; *Lead Encephalopathy*; and the *Preservative Treatment* of lead diseases. Fourteen elaborate chapters are given to the consideration of lead colic!

With these few preliminary remarks, we wish now to call the attention of our readers particularly to the subject of *lead pipe as a water conduit, in connection with lead diseases*. Dr. Dana's appendix of about seventy pages is mostly taken up with this subject, and it is this portion of his work which will at this time and in this country attract, as it deserves, the largest share of attention. From its cheapness and its admirable adaptation to this end, the use of lead pipe for the distribution and delivery of water for domestic purposes, in this country, has become almost universal; a great deal of this pipe is more or less acted upon by the water that passes through it. The amount of the solvent action of the water upon the lead varies very greatly in different circumstances; and it depends principally upon the quality of the water. When this contains certain salts in considerable quantity the solvent action is slight, or hardly appreciable, or it may cease altogether; under other conditions, as where the water is free or nearly free from salts, soft and pure, this action is energetic and constant. In the former case, the action of the water upon the lead is prevented by the formation of an insoluble lining upon its inner surface. In this connection it is important to state that the results of experiment in the laboratory are not to be regarded as conclusive so far as the practical question is concerned; the action of the water may cease upon a short piece of pipe in the hands of the chemist, while it continues in pipe used for domestic purposes. The most common and efficient protective salts are sulphate and carbonate of lime.

Dr. Christison, after a careful investigation of the subject, comes to the following conclusions on the use of lead for transmitting water.

"1. Lead pipe ought not to be used for this purpose, at least where the distance is considerable, without a careful examination of the water to be transmitted.

"2. The risk of dangerous impregnation of lead is greatest in the instance of the purest water.

"3. Water which tarnishes polished lead, when left upon it a few hours, cannot safely be transmitted through lead pipes, without certain precautions. Conversely, it is probable, though not proved, that if polished lead remains untarnished or nearly so, twenty-four hours in a glass of water, the water may be safely conducted through lead pipes.

"4. Water containing less than about an 8000th of salts in solution, cannot safely be conducted in lead pipes without certain precautions.

"5. Even this proportion will prove insufficient to prevent corrosion, unless a considerable part of the saline matter consists of carbonates and sulphates, especially the former.

"6. So large a proportion as a 4000th, probably even a considerably larger proportion, will be insufficient if the salts be in a great measure muriates.

"7. In all cases, even though the composition of the water seems to bring it within the conditions of safety now stated, an attentive examination should be made of the water after it has been running a few days through the pipes, for it is not improbable that other circumstances besides those hitherto ascertained may regulate the preventive influence of neutral salts."

We have room now for only a single remark in regard to the forms of disease resulting from the poison of lead derived from lead pipes. This whole subject is comparatively new. There is reason, however, to think that the violent acute disease called *lead colic*, so frequently attacking workers in lead, and painters, is not so often the result of lead poisoning from water pipes, as *neuralgia* and *partial paralysis*. It is a matter deserving immediate and most serious consideration, whether the great increase which has recently taken place in the amount of neuralgic affections, may not be, in no small degree, dependent upon the use of lead pipe for the transmission of water for domestic uses.

E. B.

ART. XXIII.—*Annuaire de la Mortalité Gènevoise, Publié sur l'invitation du Conseil de Santé*. Par le Docteur MARC D'ESPINE, Membre du Conseil de Santé, Médecin de Prisons et de l'Institut des sourds-muets du Canton de Genève, Membre de plusieurs sociétés savantes. Années 1844 et 1845; Genève, 1847. Brochure, p. 62.

GENEVA can boast of a registration of the mortality, births, &c., of her inhabitants, extending farther back than that of any other city of modern Europe—even to the year 1549. The records of three hundred years are now a most valuable acquisition, affording the best possible means of drawing comparisons between different periods, and ascertaining the influences exerted through the improvements in civilization. The fact they demonstrate, of the great increase in the mean duration of life, is itself sufficient to show the great value of registration, so tardily adopted, and carelessly attended to, in other cities, especially those in the New World.—We learn from the Genevese records, that towards the close of the seventeenth century, the probable duration of life was not over twenty years; at the close of the eighteenth century it attained to thirty-two years, and at present it has reached forty-five years.

The report under consideration shows the refinement to which the system of registration has been brought in Geneva. It gives not only the sums of mortality, but the specific cause of each recorded death, with its general character and duration. The following few examples will illustrate the plan pursued.—*Février 2e, f. 54. Pneumonia gauche, 15 jours de maladie. Mars 6 m. 63 Pneumonie, base droite, mort en 7 jours. Juin 44 rm. Erysipèle de la face, mort le 8me jour (autopsie), meningée saine, cercelet ramolli. Setem. 31, pf. Grossesse, péritonite hémorrhagique, expulsion d'un fœtus de 6 semaines pendant la maladie (autopsie), péritonine plein de sang, pas de foyer hémorrhagique evident.*

Through a system of abbreviations and signs, a line or two is made to show the most important information relative to each decease recorded. Thus, the figures following the date, indicate the age. If this sum is not followed by any letter, it signifies years; if followed by an *m*, or a *j*, or an *h*, it shows the months, days and hours. In a very few cases, where the age could not be indicated, ciphers were substituted. The letters *m*, or *f*, indicate the sex, whether masculine or feminine. Sometimes the sexual letter is preceded by an *r*, or a *p*, when it signifies that the individual was rich or poor. The deaths of citizens are distinguished from those of the country, by the letters indicating the sex and condition being placed perpendicular, whilst those for the country are in *italics*.

So much for the particular signs. The general arrangement admits, 1st, of a comparison of the whole number of deaths with the population. 2dly, a comparison of the deaths of the rich and the poor, from the city or country. 3dly, the law of mortality as influenced by months, seasons and different ages. 4thly, the mean duration of life at any given age, with the average mortality, &c. Me-

teorological observations, kept at the observatory, are attached, for the period of registration, together with statistical and topographical observations relative to the affairs and local condition of the canton. In conclusion, a series of supplementary notes afford more particular details in regard to certain cases included in the records, such as the nature of the accident, instrument or means of suicide, &c.

One of the most interesting points connected with the Genevese records of mortality, is the mode of establishing the accuracy of the details serving as the basis of the statements. The deaths, without any exceptions, are all certified to by physicians, not only the attendant, but those specially appointed to this duty by the Health Office. By these, notes, more or less extended, are made out, in regard to the deceased, and the morbid or accidental causes which led to death. These notes are examined every fifteen days by a medical board, discussed, and sometimes extended or modified. Even after all this, the note of registration is carried to the attending physician, who adds to it all the information interesting to record. This last duty is performed at the special request of Professor de Roches, dean of the medical faculty, at whose expense it is continued. What a commendable zeal in the cause of science is shown by this enlightened and liberal professor!

The classification of deaths adopted in this report, differs materially from that of the British Registrar General, and the one recommended by the American Medical Association. The general division is first into six principal classes or groups, namely, *still-born, external accidents, diseases, vices of organization, and old age*. There can be little diversity of opinion in relation to this general division of the causes of death. But when it comes to a more particular classification of the diseases, this unity of views ceases. We shall translate our author's words upon this subject. "Most of the nosological tables of mortality," he observes, "exhibit classifications more or less anatomical or physiological; the author is convinced that this principle is fallacious when it is designed to construct a table with the view of showing the influence of general causes in the production of mortal diseases. The principle which ought to govern in the classification of mortal diseases is the pathological, because in the present advancement of science it is known that general causes operate differently and in accordance with the nature of the diseases, rather than in relation to the organs affected. The nosological distinction of greatest importance rests upon the *acute* or *chronic* characters of diseases. Acute diseases themselves differ essentially, according as they are simple inflammations such as may be artificially produced by the application of a mere mechanical or chemical agent, or as they may possess a *specific* character preventing their creation artificially, or by simple irritation. Chronic diseases differ according as they are the result of some particular vice, such as that producing scrofula, tubercles, cancers, or, as they are the simple result of a chronic inflammation, leading to a hypertrophy, atrophy, induration, or a softening of the organs. This is the substance of the true principles of classification for fatal diseases which we wish to study in their relations to general causes appreciable through statistical investigations."

It appears from the report of Dr. d'Espine, that the deaths for four years in the entire Canton of Geneva, averaged 2.02 per cent. of the population, a very low rate of mortality, being little over one death to fifty inhabitants. This small proportion of deaths compared to what we find in some other countries in Europe, and especially in some of the cities of the United States, is in part owing to the smaller proportion of births, the average of which during four years was only 2.09 per cent. of the population, a fraction more than the average mortality. As the proportion of deaths in childhood is greater than at the more advanced periods of life, a large amount of births must necessarily lead to an increase in the proportion of the general mortality to the population. It must also tend to reduce the average mean duration of life. Hence, Geneva appears to have a smaller proportion of deaths to her population than other places where the amount of infants is much greater.

In estimating the rates of deaths, births, etc., to the population, reference should, if possible, be made to the influences of immigration and emigration, circumstances which often invest such subjects with great obscurity. "It is clear," says our author, "that in a country where adult emigration predominates, the proportion of deaths to the remaining population will rise, as in a country without emigration,

the proportion of births to the population will be increased. Either of these circumstances has for result the increase of the infantile population, that in which the deaths are in greatest proportion compared with those occurring at other periods of life. But the difference observable between a population chiefly prolific, and one chiefly emigrant, compared with a stationary population, is, that in the first the proportion of births to the population increases much more than that of the deaths to the population, whilst in the second it is the proportion of deaths to the population which undergoes increase to a greater extent than that of the births."

G. E.

ART. XXIV.—*Lectures on the Theory and Practice of Physic.* By JOHN BELL, M.D., Mem: of the Amer. Med. Assoc., and of the Med. Soc. of the State of Pennsylvania, Fellow of the Coll. of Phys. of Philada., Mem. of the American Philosoph. Soc., and of the Georgofili Soc. of Florence, &c. &c., and WM. STOKES, M.D., Lecturer at the Med. School, Park St., Dublin, Physician to the Meath Hospital, &c. &c. Fourth edition: 2 vols. 8vo., pp: 784—976. Philadelphia, Ed. Barrington and Geo. D. Haswell, 1848.

THESE lectures exhibit a curious instance of the original author becoming, in a great degree, subsidiary to his annotator and editor. From the addition, by Dr. Bell, of lecture after lecture, in each successive edition, to the few which he was induced to append, in the first instance, to those of Dr. Stokes—the work has grown from a comparatively small size to two ponderous volumes, in which the amount of matter contributed by the former greatly exceeds the original text of the latter. By these additions the lectures, instead of being restricted, as at first, to the consideration of a few diseases only, embrace now a very full account of nearly all the maladies to which the human organism is liable. In place of further augmentation, the work would seem to demand rather the labour of retrenchment, in some, at least, of its parts. Familiar with the labours of those who, as well at home as abroad, have of late years advanced, by the extent and accuracy of their observations, our knowledge of every department of pathology and therapeutics, Dr. Bell pours forth with no niggard hand of his own fullness of matter. No one can rise from the perusal of his lectures dissatisfied in consequence of the paucity and incompleteness of the information they communicate, if he have no reason to complain of their occasional diffuseness. In his desire to pass in review the opinions derived from every authoritative source, the lecturer has, perhaps, occasionally overloaded his subject, and rendered less clear and precise the doctrines he would himself inculcate, by the very means he has taken to illustrate and confirm them.

The work is, nevertheless, a most valuable one, and may with great confidence be referred to as a very full and accurate transcript of the present condition of medical knowledge, in reference to each of the subjects of which it treats; as well as for much sound doctrine in regard to the character and management of many of those diseases which, from their extensive prevalence in certain sections of our country, are of especial interest to the American physician; in this respect, the lectures of Dr. Bell on the leading forms of fever, especially, may be consulted with profit by all who are called upon to practice in the southern and western portions of the United States.

The authors have done ample justice to the labours of the leading modern physicians, both at home and abroad. The contributions to our knowledge derived in particular from British, American, and French observers, are noticed at length. The works, however, of the physicians of Germany have evidently been consulted less frequently than their value would seem to demand. By the German physicians the field of general and special pathology has, of late years, been cultivated with uncommon care and industry, and to their researches we are indebted for a mass of valuable facts calculated to throw not a little light upon many of the more important forms of disease. Of many of these facts our authors have been put in possession indirectly: we complain not that the lectures before us are deficient in important medical facts derived from particular sources, but that the additions

to our knowledge are not always credited to those by whom they were actually made.

We have no desire at this late period to enter into a detailed examination of the views advanced by our authors in respect to the several diseases of which they treat. In making such an examination we should find but few occasions for dissent, and few errors to point out. The lectures of Drs. Bell and Stokes have become already ranked among the standard American works on the theory and practice of medicine, and we admit, deservedly so, as well from their fullness as from their general accuracy in doctrine, as regards both pathology and therapeutics. And though, perhaps, a work less adapted than some others for the instruction of mere students, it will be found particularly valuable for the use of the practitioner.

In our perusal of the work before us we have noted a few typographical errors. Some of these are particularly unfortunate, occurring, as they do, in the Greek etymologies of technical terms, or in the names of foreign treatises referred to as authorities. Thus we have *πείσις, πυρ, κερ, μείτρον, οφθαλμοε*, for *πέψις, πυρ, κορ, μείτρον, οφθαλμος*, and *Deobachtungen uber*, for *Beobachtungen über* or *ueber*.

In the ninety-seventh lecture, it is stated that *kink hoart* is the common German name for whooping-cough: this is an error; the disease is known in Germany by the appellation *keichhusten* or *kindhusten*. *Kink hoart* is not German; it is perhaps a misspelling of the Swedish name for the disease, *kik-hosta*. D. F. C.

ART. XXV.—*A Practical Treatise on Poisons; their Symptoms, Antidotes and Mode of Treatment*. By O. H. COSTILL, M. D. Philadelphia, Grigg, Elliot and Co., 1848. pp. 160: 12mo.

This is an excellent compend, and a well and clearly arranged digest of the facts and opinions of the latest and most esteemed authorities; but would be far more useful, if the author had also given a synopsis of the tests for the several poisons; as without a precise knowledge of the article that has been taken, any attempt to administer an antidote would be mere guess work, and in many cases might increase instead of mitigating the evil. Dr. Costill claims no "originality for the work except in design," but has "endeavoured to collect and arrange the symptoms, post-mortem appearances and treatment of poisoning, from the best writers on the subject." We laud him for his candour, so rare in this book-making age, when we find so many works on the most important subjects claimed as new and original, which have cost the would-be author little exertion beyond the mere putting together of other men's labours. We fully admit the value of good compilations when they present a condensation of materials often-times sparingly scattered through numerous and expensive publications, but we do complain that in too many cases, these compilations are offered to the world as wholly original, without the slightest allusion to the source whence the information has been derived.

In conclusion, we can recommend Dr. Costill's treatise to the attention of the profession, and hope that it may meet with due encouragement. R. E. G.

ART. XXVI.—*Medical Lexicon. A Dictionary of Medical Science, containing a concise explanation of the various subjects and terms, with the French and other Synonyms, notices of Climate and of celebrated Mineral Waters, Formula for various official and empirical Preparations, etc.* By ROBLEY DUNGLISON, M. D., Professor of the Institutes of Medicine, etc., in Jefferson Medical College, Philadelphia. Seventh Edition, carefully revised and greatly enlarged. Philadelphia, 1848: 8vo. pp. 912. Lea and Blanchard.

WHEN the demand for a work is such as to exhaust six editions, it is certainly strong *prima facie* evidence of its value. In the case of the Medical Dictionary of Dr. Dunglison, this demand has been produced, not only by the general excellence

of the work, but by the fact that in the preparation of each successive edition, the utmost care has been taken to render it more complete and thus increase its adaptation to the wants of both student and physician.

In the sixth edition were comprised nearly two thousand five hundred subjects and terms not contained in the one immediately preceding, many of which had been introduced into medical terminology in consequence of the progress of the science, and others had escaped the author in previous revisions. While, in the edition before us, there have been added between six and seven thousand terms which are not to be found in the preceding editions. To accommodate these, not only has the size of the page been increased, but the entire work has been enlarged by more than one hundred pages.

The great value of a medical dictionary results not merely from its comprising an accurate account of those terms which constitute the present nomenclature of the science, but also from its presenting a definition of all the terms which are liable to be met with in an extended course of medical reading, as well as a list of the various synonymes made use of by distinguished writers, whether of the same or different nations—by the ancient as well as by the modern authorities in medicine and its collateral sciences. In short, to render a medical lexicon a useful and satisfactory book of reference to the student and physician, it should be sufficiently comprehensive to prevent disappointment, when its pages are consulted for any term “that has been legitimated in the nomenclature of the science,” even though it may have ceased to be used by writers of the present day.

It is in this point of view that the Medical Dictionary of Dr. Dunglison recommends itself to the profession. It is certainly more complete and comprehensive than any with which we are acquainted in the English language; while, in its extreme accuracy, the fullness and comprehensiveness of its definitions, and the general convenience of its arrangement it will bear a very favourable comparison with either of the leading medical lexicons of France or Germany.

Few, in fact, could be found better qualified than Dr. Dunglison for the production of such a work. Learned, industrious, persevering and accurate, he brings to the task all the peculiar talents necessary for its successful performance: while, at the same time, his familiarity with the writings of the ancient and modern “masters of our art,” renders him skillful to note the exact usage of the several terms of science, and the various modifications which medical terminology has undergone with the change of theories or the progress of improvement.

By a reference to the title-page, it will be perceived that the Dictionary of Dr. Dunglison is not simply a lexicon, in the strict meaning of the term, a mere *wörterbuch*—but that it comprises a variety of subjects besides the definition, description, and etymology of technical terms. These subjects, though treated with great conciseness, increase considerably the interest and usefulness of the work.

D. F. C.

ART. XXVII.—*The Transactions of the American Medical Association. Instituted 1847.*
Vol. 1. Printed for the Association. Phila. 1848: pp. 403.

THIS is a handsomely got up volume of 403 pages, and is illustrated with five plates, two of which are coloured. It contains, in addition to the minutes of the late meeting in Baltimore, the Reports of the several standing committees:—viz. on Medical Sciences, on Practical Medicine, on Surgery, on Obstetrics, on Education, on Medical Literature, and on Publications;—also a report from the committee on Indigenous Botany, and reports from several other special committees; a highly interesting communication from Dr. Edwards of Ohio, on the adulteration of drugs; with various other documents presented to the Association: and three very interesting memoirs, one on *Œdematous Laryngitis* successfully treated by scarifications of the glottis and epiglottis, by Gurdon Buck, M. D., of New York; a second by the same gentleman, entitled “A new feature in the anatomical structure of the genito-urinary organs, not hitherto described;” and finally one on *Ophthalmitis Post-febrilis*, by A. Dubois, M. D., of New York.

We are unable at this late period to notice the contents of this volume more

particularly, but we must say that they are varied and highly interesting, and that the publication will do credit to the Association.

ART. XXVIII.—*Summary of the Transactions of the College of Physicians of Philadelphia.* From April 4 to Aug. 1, 1848, inclusive. Vol II., No. 5. Philadelphia, 1848: pp. 60, 8vo.

THE present number fully sustains the character of this publication, and is replete with important contributions to our science. Among other articles of interest, are the following:—the highly valuable “Annual Report on Diseases of Children, by Dr. Condie;” an account, by Dr. Parrish, of the extraction of urinary calculi by a novel method; a case of pseudo-membranous laryngitis, in which the operation of tracheotomy, performed at an advanced stage of the disease, was followed by complete recovery, by Dr. C. D. Meigs; a case of membranous croup of a severe character, and attended with all the symptoms of approaching death, in which recovery took place without the operation of tracheotomy, by Dr. Parrish; a case of parturition occurring in a female labouring under stricture of the vagina, by Dr. C. D. Meigs; and a Biographical notice of Dr. Jacob Randolph, by Dr. Norris.

We have not space here to notice these communications particularly, but shall do so elsewhere; (see *Am. Intelligence*.) There is one subject, however, we must here advert to; and in calling the attention of the College to it, Dr. Moore has performed an important service to the community:—we allude to the serious pernicious influences exerted on the health of children, by the present system of discipline pursued in the schools of this city, and we are happy to find that the College has appointed a committee to investigate the subject, and report thereon, at an early meeting. In common, we presume, with most practitioners, we have frequently been a painful witness to the injurious effects upon the health of children, caused by the protracted sessions of most of our schools, the long confinement of children in close rooms, with a total disregard to ventilation, and the overtasking of their minds; and we can fully endorse the following remarks of Dr. Moore on the subject:

“Dr. Moore said, that for some time past he had been convinced of the injurious effects upon the health of young children resulting from the system of school discipline pursued in many of the public and private seminaries of this city. He alluded, more especially, to the holding of but one session a day. By this arrangement the children were subjected to a confinement of from four to five hours, with little or no intermission, often in small, overheated, and badly ventilated apartments. In children who are thus deprived of an adequate amount of out-door exercise, while their minds are taxed much beyond their powers, he was well convinced, from much reflection and considerable personal observation, a train of morbid symptoms are frequently induced, which are, in many cases, of considerable severity, and have a tendency to impair the future comfort and usefulness of the little sufferers. Undue confinement and too protracted application of the mental powers in childhood, would invariably, he was convinced, if it did not produce positive disease and suffering, impair the health and vigour of the system and render it more liable to the influence of those morbid influences to which it should be accidentally subjected.”

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Nerves of the Liver.* By C. H. JONES.—The liver receives a pretty ample supply of nerves from various sources: branches of the left pneumogastric, branches from the semilunar ganglia, and some from the right phrenic, are usually described as entering the organ at the transverse fissure. Having entered the portal canals, they run in the areolar tissue which surrounds the vessels, and may be seen distinctly in great numbers when the coats of the vein are dissected off. By ordinary dissection they may be followed some distance along the portal canals, but nothing satisfactory can in this way be determined respecting their distribution and arrangement. By careful dissection, and removal of the coats of the vessels, which were treated with acetic acid and examined under a power of 200 diameters, Mr. Jones has succeeded in tracing the nerves attached to the vessels of the liver further than has yet been done. His principal conclusions may be stated as follows:—1st. The nerves of the liver are almost exclusively composed of fibres of the kind termed by Henle *gelatinous*; a very few isolated tubular fibres are sometimes present. 2d. They are distributed along the whole of the vessels, and have a very complicated plexiform arrangement; and appear even in their minutest ramifications to be quite distinct from all the other tissues around them. The termination of the nerve-filaments appears to be in loops, but it is difficult to determine this point with certainty. 3d. The hepatic artery has a larger supply of nerves, in proportion to its size, than any other vessel; next in order follows the portal vein, and lastly the hepatic veins, which are very scantily supplied. The ducts also have but few nerves. 4th. The smaller hepatic arteries appear not to possess so many nerves as the larger; and it appears probable, that the nerves cease altogether with the circular fibres of the vessels. No nerves have been observed in the lobules. 5th. The organic nerves of the liver appear to consist of bands of a finely striated or granular material, in which elongated nuclei are set at intervals; and this basic substance has a tendency to divide longitudinally, although it is doubtful whether the so-called ultimate fibres are not the result of an artificial division.—*Lond. Med. Gaz.*, July 14, 1848.

2. *On the Independent Contractility of Muscular Fibre.* By Dr. E. HARLESS.—A new set of experiments performed on this subject, upon animals rendered completely insensible by ethereal inhalation, confirms the opinion that the irritability of muscle is a property inherent in the tissue itself, and not in any way derived from the nervous system. Dr. Harless found that even when the nervous system had been rendered, by the action of ether, utterly incapable of conveying a galvanic stimulus, applied either to the nervous centres or the nerve-trunks, the same

stimulus, applied directly to the muscles, would immediately throw them into powerful contraction.—*Brit. & For. Med.-Chir. Review*, July, 1848, from *Müller's Archiv*, 1847, No. 2.

3. *On the Changes which the Blood Corpuscles undergo in the Spleen.* By Profs. ECKER and KÖLLIKER.—Dr. Ecker, of Basle, and Professor Kölliker have simultaneously been engaged in investigations on the nature of the cells which occur in the spleen of various animals, and which contain blood-corpuscles and yellow granules. Repeated observations convinced Dr. Ecker that the occurrence of these bodies was perfectly normal; and further, that the blood-corpuscles in the spleen undergo a normal disintegration. He found in the spleen of rabbits, dogs, sheep, and calves, besides the known cells and nuclei, other cells inclosing blood-corpuscles. Thus, for instance, in the calf, cells were observed of about 0.007 millim., containing *one* blood-corpuscle, and a perfectly pale and finely granular mass. On the addition of water, the cell burst, the blood-corpuscle escaped, and, after growing paler, disappeared. Other cells (of about 0.010 millim.) contained *two* blood-corpuscles, and besides these, some also contained a granular nucleus, exhibiting a perfect resemblance to the ordinary cells of the spleen; whilst others again enclosed only a fine granular mass, but no nucleus. Other cells contained *three* or *four*, or sometimes even *ten*, or more blood-corpuscles, of about 0.015 to 0.030 millim. The form of these cells is sometimes round, sometimes irregular; they sometimes contain a nucleus, sometimes not; the cellular membrane is generally very distinct. In some cells, instead of blood-corpuscles, there are only yellow, or brown, or blackish granules, which, as is evident from the stages of transition, are owing to a disintegration of the blood-corpuscles. Thus we find large cells (0.030 millim.) filled with shriveled, yellow blood-corpuscles, which do not change in water, and are filled with yellow granules. In the free blood-corpuscles numerous transitions from the normal to the shriveled state are observed, and nowhere are more important differences in the size of the blood-corpuscles exhibited than in those of the spleen. An investigation into the nature of the blood-corpuscles in the spleen of frogs and tritons, showed Dr. Ecker the occurrence of precisely similar changes; and in speaking of the signification of these alterations, he adduced two hypotheses, which had at first sight appeared to him to furnish an equally satisfactory elucidation of the subject. 1. That the blood-corpuscles, either singly, or several together, become enclosed in cells, within which they are disintegrated; or already disintegrated blood-corpuscles become enclosed by cells. This fact is not without analogy, since in the brain and the thyroid gland similar changes of the blood occur under different pathological conditions, as in effusions. The destination of these cells is not known with certainty, but as Dr. Ecker found them in the blood of the splenic vein (in a calf), he conjectures that they reach the liver with the portal blood; and that a separation of the blood which has lost its vitality is effected in some way by the bile. 2. The second hypothesis, the validity of which Dr. Ecker has, however, found reason to doubt since his investigations have been solely directed to the changes observed in the spleen of mammalia, was as follows: That the cells which enclose one or more blood-corpuscles are converted into lymph-corpuscles, the lymph being changed by the addition of blood-constituents. The red colour of splenic lymph appeared at first sight to corroborate this view, but subsequent investigations showed that no such bodies were to be found in the splenic lymph of a calf. It would appear that the separation which occurs in the vesicles of the spleen serves the same end as the vesicles of the other blood-preparing glands. Kölliker has extended his observations on these changes of the blood-corpuscles to so large a number of the classes of vertebrata, that we may consider them as of general occurrence in all these animals.—*Ibid.*, from *Henle u. Pfeuffer's Zeitschrift für rationelle Medizin*, Bd. vi. Heft. 2.

4. *On the Blood of the Splenic Veins and of the Vena Porta.* By M. BÉCLARD.—After long reflection upon the functions of the spleen, it occurred to M. Béclard, that an examination of the blood in the splenic veins might throw light upon this; and, in a letter addressed to M. Dumas, he furnishes an account of the results invariably arrived at in eight experiments performed on dogs.

1. The blood returning by the splenic vein, prior to its junction with the vena portæ and veins of the stomach, contains a smaller proportion of globules than arterial or even venous blood, in general. 2. The quantity of albumen is proportionably increased—and, indeed, the disappearance of the globules can be conceived of with difficulty, without their principal constituent element being thus found to be present. 3. I have sought for the constant source of the renewal of the globules, which appeared to be thus incessantly destroyed in the spleen. I first thought of the lungs, and, as all the blood of the organism traverses them, the entire question resolves itself into this—whether a notable difference exists between arterial and venous blood, in respect to amount of globules. A larger proportion does exist in arterial blood, but to so slight an extent, as to be explicable by other causes; so that I abandoned the idea of the lungs being the exclusive organ for the formation of globules. 4. The arterial blood examined at different points of the circulation, is found to present an identical composition in the same animal; while the venous blood differs in respect to its proportion of elements, according as it is examined in different regions. The blood of the splenic veins is an example; but to my surprise I found that the amount of globules in that of the vena portæ, prior to its junction with these, so far from being diminished, was considerably increased; and so abundant is the supply of globules thus brought from its radicles to its trunk, that intestinal absorption at once presents itself as an explanation of the accumulation. The following table exhibits the differences as observed in four successive bleedings performed on the same dog:

	Ext. Jugular.	Mammary Artery.	Splenic Vein.	Vena Portæ.
Water - - -	778.9	750.6	746.3	702.3
Albumen - - -	79.4	89.5	124.4	70.6
Globules and Fibrine -	141.72	159.9	128.9	227.1

Annales de Chimie et de Physique, 1847, tom. xxi. pp. 506-8.

At the sitting of the *Académie des Sciences*, Jan. 17, 1848, M. Bédard made an additional communication upon this subject, and after referring to the above experiments, added, that he had since made thirty-six comparative analyses between the blood of the splenic and the external jugular veins; selecting the latter as the most convenient representative of the mean composition of venous blood. These also showed a less proportion of globules, a larger proportion of albumen, and a somewhat larger one of fibrine, in the blood returning from the spleen. "So that the spleen, so far from being an organ for the formation of globules, would appear to be the place of their destruction." To prevent error, the blood of the vena portæ was examined in its intestinal branch (sup. mesenteric), and the proportion of its elements was found to undergo an extensive variation. Thus, 1st, during the early period of the digestive absorption, the quantity of albumen is considerably increased; and 2d, the same occurs at a later period with respect to the globules; while, 3d, if the animal has been subjected to long abstinence, the proportion of constituents is the same as that found in the general venous system. "It results from these experiments on the blood of the vena portæ, that the globules commence and finish in the same system. While, in fact, the intestinal branch of the vena portæ brings the new globules to the common trunk, the splenic branch transmits to it the vestiges of those which have been destroyed in its interior. The blood of the vena portæ not containing a larger proportion of fatty matters than the venous blood in general, and chyle differing from lymph especially by the presence of fatty matters, it is, if not demonstrated, at least very probable, that albuminoid matters enter the blood by one sole channel, the vena portæ. On the other hand, these same matters enter the blood under one form alone, that of albumen. Finally, as the transformation of albumen into globules takes place in the vena portæ, and this only some hours after the commencement of digestive absorption, it results that the blood circulating in the portal system is not subjected to the general laws of the circulation. I shall examine this important physiological point in my next Memoir.—*Ibid.*, from *Comptes Rendus*, tom. xxvi.

5. *On the State of the Blood and Muscles in Animals killed by Hunting and by Fighting.* By G. GULLIVER. (Proceedings of Roy. Med. and Chir. Soc., June 13.)—The

author commenced his paper by some extracts from the "Treatise on the Blood, Inflammation, and Gun-Shot Wounds," in which Mr. Hunter advocates the doctrine that the blood is a living fluid, which he considers to be supported by the phenomena connected with its spontaneous coagulation; and further affirms his belief that this property of the blood, as well as the contractility of muscle, is destroyed in animals hunted to death. The author's especial object was to demonstrate experimentally, that the latter opinion is at variance with his own observations, several of which he quotes. In the first, a hare was run down and killed by harriers: she became very stiff within a very few minutes after death. The heart was found, on examination afterwards, to be hard and contracted, and contained some small clots of blood. In the second observation, likewise upon a hunted hare, the phenomena were similar; but the amount of coagulum was greater, in consequence of the precaution having been taken to place a ligature around the root of the heart and lungs before excision. The fibrin presented the usual appearance under the microscope. The third observation was made on a hunted stag, which fell dead after a hard run. Some blood was obtained from the throat, which was cut; and this presented, three days afterwards, some shapeless and rather soft clots, amounting to about a third of its whole bulk; but there was no sign of putridity. The heart was likewise contracted and hard. As regards the stiffening of the muscles, the author has been informed, by observing stag-hunters, that this condition speedily supervenes when the animal is hunted to death. Analogous phenomena were noticed in cocks killed by fighting.—*Lond. Med. Gaz.*, June 1841.

ORGANIC CHEMISTRY.

6. *On the Presence of Lead and Copper in Healthy Blood.* By M. E. MILLON.—When blood, as it issues from a vein, is received into a vessel containing about three times its volume of water, and is then introduced into a flask filled with chlorine, it coagulates, assumes a brown colour, and shortly forms a gray, amorphous pulvaceous mass, in which all trace of organization of the blood-globules has disappeared. On squeezing this mass in a linen cloth, a fluid readily filters through, and remains limpid. In this liquid are contained all the saline principles of the blood—in the solid coagulum, all the organic matters are found. So complete is this separation of the organic and saline principles, that if the coagulum is washed and then calcined, it will be entirely consumed, without leaving a particle of residue. And, on the other hand, if the limpid fluid is evaporated to dryness, and burnt in an organic-analysis tube, so little carbonic acid will be evolved, that the quantity of organic matter not coagulated by the chlorine may be estimated as not exceeding, at the outside, 1 part in 100. This filtered fluid furnishes the means of determining the nature and amount of the fixed salts of the blood. And this may be done with such readiness, that in from two to three minutes all the iron which the blood had contained may be extracted in a state of clear solution, in which its various tests may be conveniently applied. The other fixed salts admit of being equally well obtained, without the long and difficult process of calcination to remove the organic matters. This convenient method of isolating the saline ingredients of blood may be applied equally well, also, to other organic fluids and tissues of the body. For chlorine acts in a like manner upon all.

The most important results which M. Millon has obtained by this process, are, that human blood invariably contains silica, manganese, lead, and copper. The proportion of silica and of the metals is sufficiently great that they may be detected without any particular modification of the ordinary mode of ascertaining their presence. After evaporating to dryness the liquid expressed from blood acted upon by chlorine, the residue is to be calcined, in order to remove any organic matter which has not been rendered insoluble by the chlorine. The ash is then to be submitted to the same processes employed in examining a mineral supposed to contain silica, manganese, lead, and copper. According to M. Millon's analyses, it appears that the quantity of silica in the calcined ash of human blood thus prepared varies from 1 to 3 per cent.; the quantity of lead from 1 to 5 per cent.; that

of copper from 0.5 to 2.5; and that of manganese from 10 to 24. In other experiments, M. Millon examined certain quantities of pure clot and of clear serum, to determine whether the lead and copper are disseminated through the whole mass of blood, or are limited, like the iron, to the red corpuscles. The results showed that the principal quantity of these metals was contained in the clot, and, therefore, doubtless belonged to the red corpuscles. A small quantity was found in the serum, but this was probably derived from a few blood globules either dissolved or suspended in the fluid.—*Lond. Med. Gaz.*, June 1848, from *Comptes Rendus*, 1848.

7. *Urea in the Humours of the Eye.*—The vitreous humour of the ox's eye contains 1.63 parts of solid matter in 100. Berzelius detected in it chloride of sodium, a small quantity of albumen, and certain principles soluble in water. M. E. MILLON states that from 25 to 35 per cent. of this solid residue consists of urea. He found that the vitreous humour of the eye of man and of the dog possesses a similar composition. The aqueous humour also contains urea and chloride of sodium.—*Ibid.*, from *Comptes Rendus*, 1848.

8. *Creatine a constituent of Human Flesh.*—The existence of creatine in human flesh, not having been yet ascertained, although it is found in the urine. Dr. SCHLOSSBERGER treated six pounds of human flesh by the usual process, and extracted from it a quantity of creatine, amounting in all to about two grammes, a proportion approximating very closely to that obtained by Liebig, for the quantity existing in ox and horse flesh. Dr. Schlossberger did not obtain the slightest trace of inosinic acid in this experiment.—*Monthly Retrospect*, Sept. 1848, from *Ann. der Chem. and Pharm.*, April 1848.

9. *Observations on the Relation of Acids to the Animal Economy.*—In a former article on the abuse of alkaline medicines (see number of this Journal for Jan. last, p. 237), M. MIALHE laid down the following propositions:—1. That the greater part of the humours of the economy being normally alkaline, the abuse of alkalies does not rapidly produce serious accidents, as they do not change the nature of the medium in which the chemical changes are effected. 2. The normal alkalescence in animals contrasts them with vegetables, whose constitution is naturally acid. 3. The alkalescence of the fluids is necessary for the decomposition and assimilation of hydro-carbonated amylaceous substances. 4. The employment of alkalies, generally useful, is only dangerous for those whose vital fluids are already supersaturated with them, as is the case in certain pathological conditions, and among the inhabitants of the country, who, during their laborious occupations, throw off much acid with their perspiration, or who live upon an entirely vegetable regimen.

From the above statement, it follows, that if the naturally alkaline fluids become neutralized, and still more if they become acid, functional disorders will result. The vital fluids whose composition becomes thus perverted, are no longer fitted to produce the necessary interstitial changes and intimate modifications. The economy, at first, struggles against this condition, but ere long yields to it; and debility, wasting, and serious diseases, as pyrosis, gravel, gout, scorbutus, or diabetes (diseases far more nearly connected together than is generally supposed), may result, and prove impossible of relief as long as the acidity prevails.

A superabundance of acid may arise in the economy from various sources. 1. During the heats of summer many persons make an immoderate use of acidulated beverages. 2. The diet may be too azotized. Meats, by reason of their albuminoid matters, contain much sulphur and phosphorus; and these bodies, during their combustion in the economy, give rise to large quantities of sulphuric and phosphoric acid. 3. The most important of all the sources is bodily inactivity, in consequence of which a deficiency in the excretion of acids by means of the perspiration exists. Thus we find uric acid, gout, and diabetes especially prevailing among those classes whose diet is too animalized, and bodily exertion defective. This has long been recognized to be the case in gout and gravel, and is no less true as regards diabetes, a disease of far more common occurrence than is suspected. The glucose derived from feculent matters cannot be decomposed or assimilated in the absence of alkalies, and diabetes is a result. Herbivorous

animals, whose fluids are still more alkaline than our own, never suffer from this disease.

The peasant in the country, sweating enormously, and at the same time increasing the alkaline state of the humours by his vegetable regimen, can bear large quantities of acid drinks. So, too, the inhabitants of hot countries eat with impunity enormous quantities of acid fruits. The acids of fruits, however, always are less dangerous than the free acids, as they are in part united with alkalies, and their salts undergo changes in the blood, which transform them into carbonate of potass. Wherever inactivity or cold diminishes the cutaneous secretion, the ingestion of acids becomes especially dangerous; and thus gout or diabetes, which had disappeared, may be reproduced by a low temperature alone.

If certain waters are more favourable than others to health, a fact which did not escape the Romans, this is due to the presence of a marked proportion of bicarbonate of lime. Such waters immediately saturate superfluous acidity, facilitate the decomposition of glucose, and are especially adjuvatory to the formation of bone and the prevention of rickets.

A question has of late much occupied chemists, viz., why the organic acids should pass into the urine and the mineral acids not. That portion of the former of these which remains after saturating the alkalies, may pass at once off by the urine; but the mineral acids being endowed with the property of coagulating albumen, which the others are not, can never reach very far, since at every step they are absorbed by the tissues and the fluids which impregnate them. The resulting coagulum may, indeed, gradually yield its acid to the alkaline bases of the blood, and the acid so saturated may pass into the urine as a salt, but it can never reach the fluid in its free state. "So much do I rely upon this explanation, that I am certain that phosphoric acid, in spite of its mineral origin, would reach the urine in its free state; for, unlike the other mineral acids, it does not coagulate albumen, and in that respect is analogous to the organic acids."—*Med.-Chirurg. Rev.*, July, 1848, from *L'Union Médicale*, 1848, No. 22.

MATERIA MEDICA AND PHARMACY.

10. *On Digitaline: its Physiological and Therapeutical Effects.*—The subject of digitaline has been treated, some years ago, with great talent by Messrs. Homolle and Quévenne, (see number of this Journal for July, 1845, p. 182,) and more recently by Messrs. Bouchardat and Sandras. Much, however, remained to be done in a clinical point of view, and this deficiency M. RAYER has endeavoured to supply in his investigations, reported in a paper by M. HERVIEUX.

As to the physiological effects of digitaline, it may be said that doses of one-fortieth, one-twenty-fourth, and one-sixteenth of a grain, are not disagreeable to take, and produce no disgust or repugnance afterwards. The lowering effects on the pulse have been noticed in all patients, without exception: it was retarded from twelve to forty-eight pulsations, or, in other words, the mean amount of diminution was between one-fourth and one-third; the maximum, one-half, and the minimum, one-eighth. Two or several hours must, however, elapse before these results can be noticed. The pulse, if the whole length of the treatment be kept in view, reaches the maximum of retardation only after a week or two. This maximum is then, strictly speaking, an absolute one, and the maximum which is observed daily, five or six hours after the ingestion of the drug, is a relative one. The peculiarities of the pulse, when thus lowered, are extremely variable: in most cases it is small; but it acquires, nevertheless, a certain amount of resistance and hardness, rarely recovering its normal fullness. A phenomenon worth noticing is the effect of digitaline on the irregularity of the pulse; for the ingestion of the drug may produce this irregularity, and either modify or destroy it, if it were pre-existing. But it may be gathered from experiments, that digitaline, at least in therapeutical doses, improves the qualities of the pulse, instead of injuring them; that it diminishes its frequency, and regulates its action, bringing it rather nearer to the normal standard than removing it from the same. The urinary functions are much influenced by digitaline. This is evinced both by the increase in the

quantity of the evacuations and their frequency. One-twenty-fourth or one-sixteenth of a grain, administered for some time, has, in the majority of cases, increased the amount of urine by one-half; in some cases, the proportion was less; and in other very rare ones, it increased fourfold. The physiological effects can, therefore, be thus summed up:—

1. Digitaline, in doses of the twenty-fourth to the sixteenth of grain, renders the circulation slower, and increases the secretion of urine.

2. Doses of one-twelfth to one-eighth of a grain may give rise to serious disturbances of the nervous centres and the digestive organs.

3. Beyond an eighth of a grain intolerance always sets in, and death might ensue if this limit were overstepped, or if the attempt were pursued too long.

11. *New Organic Base in Opium*.—Dr. G. MERCK, in the examination of a quantity of the residues of opium, has discovered a new base for which he proposes the name of *papaverine*. This substance crystalizes in groups of pointed crystals from its spirituous solution. It is sparingly soluble in cold alcohol and ether, but much more so in these menstrua at the boiling temperature. It is insoluble in water. It scarcely affects reddened litmus paper; with sulphuric acid it gives a blue colour. The salts of papaverine are for the most part sparingly soluble in water, and the hydrochlorate is especially remarkable for the facility with which it crystallizes. It is obtained in right-rhombic prisms, the angles of which are 80° and 100° . The sulphate and nitrate are also readily crystalizable. With bichloride of platinum it gives a double salt in the form of a yellow powder, insoluble in water and alcohol. The analyses of Dr. Merck establish the following as the formulæ of the base and its compounds:—Papaverine, $C_{40}H_{21}NO_8$; Hydrochlorate, $C_{40}H_{21}NO_8 + HCl$; Platinum Salt, $C_{40}H_{21}NO_8.HCl.P + Cl_2$.—*Month. Journ. and Retrospect*, Sept. 1848, from *Ann. der Chem. und Pharm.*, April 1848.

12. *On the Use of Adansonia Digitata as a Substitute for Sulphate of Quinine*.—M. DUCHASSAING, of Guadaloupe, having been led by the high price of sulphate of quinine to seek some other remedy against intermittent fevers, conceived the idea of employing the bark of *Adansonia digitata*. The result of a series of numerous experiments has tended to confirm the efficacy of this remedial agent, which is cheap, of an agreeable taste, exercises no action on the nervous system, but is favourable to the functions of digestion. M. Duchassaing has found these means succeed in cases where the strongest doses of sulphate of quinine had failed. One ounce of this bark, boiled in a litre of water till it was reduced one-third, generally sufficed to cure these kinds of fever.—*Gaz. Médicale*, May, 1848.

13. *Solution of Gutta Percha as a dressing to Wounds*.—Gutta percha may be readily dissolved in bi-sulphuret of carbon in all proportions, and without the aid of heat. When a few drops of this solution are placed on the surface of any object, the carburet of sulphur evaporates with great rapidity, and leaves a thin layer of gutta percha, which acts as a preservative against the influence of air. On account of this, M. VOGEL has employed this solution to cover wounds caused by a cutting instrument. The carburet of sulphur in evaporating produces a sensation of cold in the skin, which acts as an antiphlogistic, and a re-union of the margins of the wound is readily effected. The sulphuret of carbon should be quite pure and free from all traces of sulphuretted hydrogen. This may be effected by treating it with litharge or carbonate of lead. He has also employed this solution for covering the surfaces of fruit which it is wished to preserve in a collection of natural history. Up to the present time a solution of wax has been employed for this purpose, but there is a great difficulty in removing the wax from the fruit without tearing the surface. The solution of gutta percha, which completely prevents the fruit from drying, has also the advantage of being easily removed by means of hot water. The solution offers also a great advantage for paintings and drawings, for it possesses the property of fixing in the paper, pencil, chalk, or charcoal drawings in such a manner that it is impossible to injure them by friction.—*Prov. Med. and Surg. Journ.*, from *Med. Times*.

14. *Liquid India-Rubber as Sticking Plaster*. By Mr. DOUGLAS FOX.—If liquid

India-rubber, spread upon calico, or other material, by a stiff brush, or by a knife, be used as adhesive plaster, it will be found to answer far better, in almost every case, than any other adhesive material, as it sticks firmly, is pliant, produces no irritation to the skin, and will bear lotions, or washing over it. It is also most valuable in cases where the skin requires a soft plaster of an unirritating nature for its defence, as in old persons, or others long confined to bed. In such cases, it is better to use either soft leather or the vulcanized India-rubber, made in thin sheets; the latter, from its elasticity, is often the best, as it stretches with the skin on every movement of the body. To many kinds of wounds, from operations or otherwise, strips of thin vulcanized India-rubber, spread with the liquid, will be found invaluable as elastic adhesive plasters, as they become firmly attached to the skin, and give way to all its movements. But should any wounded part require a portion of the plaster to be non-elastic, as in the case of operation for hare-lip, &c., then, in order to secure such part from being stretched, a short piece of calico, about an inch in length, should be stuck upon the middle of the elastic plaster, by which means that portion would become stationary.

If a circular piece of thin vulcanized India-rubber, about two inches in diameter, be spread with the liquid, and applied on the abdomen of an infant having umbilical hernia, and a common bandage, such as is generally used for infants, be passed lightly round the body, the protrusion will be instantly checked; and if the same plaster be again spread with the liquid and re-applied, when it comes off from time to time, no trouble will be experienced by the infant. It is not necessary to use any pad or compress.

The liquid, which is like thick treacle, and the vulcanized India-rubber, may be procured in most large towns. (They are manufactured in Manchester, by Charles Mackintosh and Co.) In most cases, the thin sheet of the vulcanized India-rubber, or that sold as No. 50, will be the most suitable; in other cases, the thicker, or the No. 36, will be advisable.

The most convenient method of carrying the liquid is in one of the small, compressible bottles, used by painters, holding about an ounce, so that on removing the screw-cap, any required quantity can be squeezed out.

The above statement will give a general idea of the subject; the materials may of course be used in a vast variety of forms.—*Lancet*, Feb. 19.

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

15. *Observations on "Ochlesis," or the Disorder generated by the Accumulation of the Sick.* By GEO. GREGORY, M.D. (Proceedings of Roy. Med. and Chirurg. Soc., June 27).—The object of this communication is to give a brief sketch of the evils which result from the accumulation of a vast number of sick persons under one roof. The author designates the general condition of disease produced under these circumstances by the term "*ochlesis*," derived from *οχλος*, a crowd. The normal type of the disorder is erysipelas of the face; but there are a vast number of allied affections which appear at different times with it, either separately or in combination. These are, erysipelas of the extremities, especially affecting wounds or sores; trails of erythematous redness, following the course of the chief absorbent trunks, and terminating in abscesses; cellular inflammation of the lower limbs, or phlegmasia dolens; cellular inflammation of the neck, leading to abscess, cynanche, otitis, glossitis; inflammation of the joints, terminating in purulent effusion; spontaneous gangrene of the genitals and of the extremities; gangrene supervening upon wounds or sores; spontaneous gangrene of some portion of the trunk of the body, especially in new-born children; gangrene of the umbilicus. Instances of pure fever, of a low type, from the same source, are not uncommon. Diarrhœa sometimes is the result, from the mucous membrane of the bowels becoming affected; and in the wards of lying-in hospitals, the "*ochletic*" miasm expends all its virulence on the peritoneum. The author has seen an asthenic form of laryngitis produced by the same cause, and believes that the pneumonia which springs up in hospitals has likewise its source in the contagious ochletic

miasm. This miasm, too, he thinks, produces the excessive depression which attends the worst cases of sea scurvy, and he has seen it occasion, in the Small-pox Hospital, a state resembling, in all respects, scurvy itself. All the disorders originating in the ochletic miasm are characterized by a low condition of the vis vitæ, and intractability. The experience of the Small-pox Hospital during many epidemic visitations, especially in the years 1842, 1844, 1847, and 1848, has convinced the author of the fact, that all the diseases which he has enumerated may arise from the same miasm. Contagious peritonitis is, perhaps, the only form of the ochletic malady that he has not seen at that hospital during the last twenty-five years; but he regards it as quite certain that this is "part and parcel" of the same disease. The chief agent in the production of ochlesia is, certainly, the crowding together of the sick in one spot; but matters are made much worse by unfavourable locality, by dampness of the surrounding soil, imperfect drainage, or choked sewers, by deficient ventilation, by the character of the cases congregated, by neglect of personal cleanliness, by the employment of unpurified bedding, and by inefficient purification of the wards. Since, however, the ochletic miasm is evolved only at certain times, a peculiar, but unknown, condition of the atmosphere must concur towards the actual result. The ochletic miasm appears to attach itself strongly to the walls and floor of the apartment—hence the use of covering the floor with a mixture of quicklime and water, of lime-whiting the walls, of fumigating with nitric acid or chlorine, &c. The great means of checking the development of ochlesia, however, is to restrict the admission of patients, and to leave the infected ward unoccupied for a certain time.—*Lancet*, July 17, 1848.

16. *Cases illustrative of some consequences of Local Injury.* By THOMAS HODGKIN, M.D. (Proceedings of Roy. Med. and Chirurg. Soc., June 27.)—The cases detailed are divided into two groups; the one, in which the effects had more or less the character of common inflammation; the other, distinguished by the production of an adventitious structure having the character of malignant disease. The following is an outline of the first of three cases included in the former group:—

R. M.—, about forty-five years of age, an active man of business, of spare habit, but enjoying nearly uninterrupted health, had, rather more than two months before his death, fallen upon the edge of the curb-stone, in one of the streets of London, but was not sensible of having received much injury. About six or seven weeks afterwards he was exposed to wet and cold, after being heated and fatigued. In the evening he was chilly and distressed, and felt severe pain in the right side. He went out the next day, and was again exposed to wet and cold, but after this was confined to the house. A blister was applied to the seat of pain, and aperients and effervescing salines were given. He complained no more of pain in the side, but remained feverish and weak. Two half-glasses of claret produced a most disproportionate mental excitement, which returned in paroxysms. In a day or two after this he passed into a state of coma, with a very rapid, feeble pulse. Ammonia was given. He revived, and complained transiently of a little pain in the left arm and leg. A small induration was found near the calf of the leg: this slowly increased, and the day before his death caused considerable pain. After the mental disturbance had passed off, his head was generally hot, and his face for some time rather flushed; the expression of his countenance generally quite composed; the breathing quick, but easy, with a little stertor during sleep or somnolence; the tongue was moist, with a white fur on its surface: the pulse generally numbered 120; vomiting occurred twice or three times before death. A short time before death small pustules or maturing vesicles were noticed on the body and limbs.

On the examination of the body, a small subcutaneous collection of pus was found near the head of the right fibula. A larger tumour at the upper part of the left calf was not opened. Nothing remarkable was found within the cranium, except that in the cortical substance of the brain, at one particular spot, there seemed to be an evident but very partial softening, by which the separation of the external layer of the cortical substance from the subjacent layer was favoured. The right pleura presented marks of recent inflammation near its lower part, and over the fifth or sixth rib, from its anterior extremity to its angle, was elevated by rounded purulent deposits of various sizes. The corresponding part of the pul-

monary pleura presented similar purulent deposits, and the adjoining part of the lung was in a state of recent hepatization. The muscular structures on the exterior of the same rib were found sprinkled with similar, but smaller purulent deposits. The left pleura and lung, and the heart, were healthy. In the abdomen, the only remarkable appearances were numerous scattered depressions in the mucous membrane of the stomach, probably the enlarged orifices of follicles; marks of severe inflammation of the mucous membrane of the large intestine, from the middle of the arch of the colon to the rectum; and the presence of a small quantity of semi-transparent lymph between the convolutions of the intestines, between the middle and lower parts of the abdomen.

Of the second class of cases, seven examples are given. The author, in his remarks, first directs attention to the peculiarities of the former class of cases; the slight primary effects of the local injury, and the anomalous character of the secondary effects; the disturbance of the mental faculties in two of the cases; the constitutional disturbance, exciting the suspicion that the brain, heart, or some important part of the alimentary canal, was in a state of acute inflammation; and in two cases, the severity and rapidity of the symptoms, which were nearly as great as in cases of dissection and other poisoned wounds. He expresses the opinion, that these symptoms were due to a morbid poison being generated in the system—an opinion favoured by the occurrence of vesicles, with puriform contents, on the surface of the body. To explain the formation of this morbid poison, he supposes that the immediate effect of the local injury is so to impair a portion of the animal tissue, as to render it incapable of the proper maintenance of those molecular changes by which interstitial absorption and deposition are carried on; that the changes which take place in dead animal matter proceed in the injured part very slowly, and during health produce no inconvenience; but that if a febrile state of the body be set up by cold or other cause, the morbid influence of the part in which these chemical changes are going on produces inflammation or derangement of a more specific kind in the surrounding tissues, and the further production of a like cause of irritation in the system generally. In one case a remarkable odour of malt or saccharine matter was observed. This the author regards as an almost certain omen of death. In the second group of cases, instead of the vitality of the injured part being reduced, the most striking phenomenon is the production of a new growth, to which vital organization is essential. All living parts, whether old or new, are nourished from living material, and every living cell is produced from a previous cell. In these cases the injury does not destroy life, but only modifies the nutrition of the part, by exerting an influence on small molecules. The result is, that the new cells formed there are modified, from being, as it were, incubated in a peculiar *nidus*. When once the production of morbid corpuscles, suited to the production of a morbid tissue, has taken place, the growth of such structure at the affected part may almost be made the subject of ocular demonstration; but the subsequent appearance of a similar structure in other parts of the body is still involved in some mystery.—*Lancet*, July 17, 1848.

17. *Case of Hydatids within the Cranium, giving rise to some singular Phenomena.* By JAMES STEWART, M. D. Communicated with some prefatory remarks by Dr. George Gregory. (Proceedings R. Med. and Chirug. Soc., June 27.)—In the first portion of this paper, Dr. Gregory remarks on the greater rarity of acephalocysts, or hydatids, in the intra-cranial structures, than in the thoracic or abdominal tissues, and refers to Dr. Craigie's observation that in the greater number of recorded cases only solitary serous cysts existed, not clustered hydatids. After noticing briefly three cases, one described by Rentdorff, a second related by Mr. Mowatt, of Worthing, in the second volume of the *Medico-Chirurgical Transactions*, and the third communicated by Mr. Burnell to the late Dr. Baillie, who remarked that none such had ever fallen under his own observation, Dr. Gregory states, as the result of his reading, that the normal series of symptoms flowing from the development of intra-cranial hydatids seem to be the following:—Pain in the head, succeeded, after a considerable time, by epileptic fits, and terminating in apoplexy. The Pathological Museum of the Army Medical Department at Fort Pitt, Chatham, contains two specimens of hydatids of the brain. An account of all that is known

relative to these cases has been furnished to Dr. Gregory by Dr. French. In the first case no cerebral symptoms were noticed during life. After death, cysts, described as hydatids, were found beneath the pia mater, covering the hemispheres, in the right corpus striatum, and in the substance of the cerebrum in its immediate vicinity. In the second case, epileptic fits were present for three years and five months before death. Here there were small round bodies, like hydatids, some hard and almost cartilaginous, not only beneath the pia mater, but also generally throughout the substance of both cerebrum and cerebellum. They were collected to the amount of an ounce or more. Each consisted of a distinct membranous sac, which sometimes appeared double, and in layers like an onion. All the cysts contained a clear fluid, with more or less cheesy-looking matter. Dr. Gregory then communicates the following case, which, at his request, had been transmitted to him by Dr. Stewart:—The patient, a gunner of the Royal Artillery, aged twenty-four years and nine months, was admitted in the Artillery Hospital, Woolwich, on the 29th of April, 1848, immediately on his arrival from Malta, with the following history:—He had arrived in Malta with his company in February, 1847, and from that time suffered from constant headache. In November, 1847, he had a severe epileptic fit, followed by coma. Subsequently imbecility showed itself, and his vision became impaired, the pupils being sluggish, and the left eyelid affected with slight ptosis. His memory became defective, and he became subject to immoderate and uncontrollable fits of laughter when spoken to. When he arrived at Woolwich, he still presented the last-mentioned most remarkable symptom. His hearing was a little affected, but both eyes were amaurotic; he staggered in his gait like a drunken man, and the expression of his countenance was idiotic. On the 22d of May, a large piece of meat which he had attempted to swallow stuck fast in the œsophagus, and he was only saved from suffocation by tracheotomy. A few hours afterwards, epileptic fits ensued, and were followed by coma, in which he died on the following morning. On examining the body, there was found in the middle fossa of the base of the cranium, between the cranial bones and the dura mater, a mass, the size of a closed fist, which proved to be a nest of hydatids. The hydatids were very numerous, and varied in size from that of a large pea to the dimensions of a small orange. The contiguous bones were roughened. The substance of the brain, which, together with the dura mater, was pressed towards the right side, presented no abdominal appearances. The lateral ventricles were filled with a clear fluid.—*Lond. Med. Gaz.*, July, 1848.

18. *On the Minute Anatomy of the Emphysematous Lung.* By G. RAINEY, Demonstrator of Anat. at St. Thomas's Hospital. (*Proceedings of Roy. Med. and Chirurg. Soc.*, June 27.)—The author first describes the minute anatomy of the pulmonary tissue in the healthy state. He then gives an account of the microscopic examination of portions of lung which were in the state of ordinary vesicular emphysema. The first change which attracted his attention was the perforated or cribriform state of portions of the lining membrane of the air-cells. He next observed that the membrane in the vicinity of these perforations, as well as in many parts which had not yet become cribriform, was studded with minute portions of oil, the membrane itself being thinner at these points. He supposes, therefore, that the conversion of the nutritive material of the pulmonary membrane into oil induces a weakened condition of the membrane, and renders it unable to support the capillary plexuses, and to resist the pressure of the air in the air-cells, and that the perforations already mentioned are the consequence. Other changes follow. The meshes of the capillary network become wider, and the capillaries themselves smaller. Several cells become broken up into one cavity. Fragments of the lacerated cell-walls are then seen containing extremely elongated and contracted capillaries, with very large and generally very long areolar spaces. When the cavity has become very large, the air-cells which were broken up to form it have in a great measure disappeared, and its sides are held together merely by fibrous bands composed of the remains of small bronchial tubes, and of condensed interlobular cellular tissue. When such a cavity is situated near the surface of the lung, the pleura and sub-serous tissue become thickened. The disease is regarded by the author as an instance of "fatty degeneration."—*Lancet*, July 17, 1848.

19. *Aneurism of the Arch of the Aorta.*—Dr. BELLINGHAM, in the numbers of the *Dublin Medical Press* for May and June last, relates several cases of aneurism of the arch of the aorta: with some remarks on the diagnosis of that disease, on the mechanism by which the double sound and double impulse are produced in aneurism of this part of the aorta, and upon the analogy between the normal and abnormal sounds of aneurism of the aorta, and the normal and abnormal sounds of the heart. The following are the conclusions at which he arrives:—

1st. That a double, not a single sound, characterizes aneurism of the arch of the aorta, which closely resembles the double sound of the heart, and may be termed its *normal* sound.

2d. That the normal double sound of aneurism of the arch of the aorta has its cause in the friction between the blood and the lining membrane of the orifice and parietes of the sac, because there is no other agency to which it can be referred.

3d. That the normal second sound of aneurism of the arch of the aorta is caused by the regurgitation of the blood into the sac from the aorta and large vessels which arise from it.

4th. That the first, or the second, or both aneurismal sounds, may be replaced by a murmur, which may have either a blowing, sawing, or filing character; and that such murmurs may be regarded as the *abnormal* sounds of aneurism of the arch of the aorta.

5th. That the first aneurismal sound is much more frequently superseded by a murmur than the second, because the force with which the blood is transmitted to the sac by the left ventricle is much greater than that with which it regurgitates into the sac at the period of the ventricular diastole.

6th. That the abnormal sounds of aneurism of the arch of the aorta, equally as its normal sounds, are caused by friction between the blood and the orifice or parietes of the sac; and that they are nothing more than exaggerated normal sounds—exaggerated, because the degree of friction is then increased.

7th. That in aneurism of the arch of the aorta pointing externally, the sound is not only always double, but a double impulse is frequently also perceptible to the hand.

8th. That the second impulse of aneurism of the arch of the aorta has its cause in the same agency which gives rise to the second sound; consequently neither a double sound nor a double impulse is perceived in aneurism of the abdominal aorta, or of any of its branches.

9th. That the phenomenon known under the name of *Frémissement Cataire*, or purring tremor, whether it occurs in an aneurism or a large artery, is nothing more than the pulse of aortic regurgitation on a large scale; consequently that it is a sign of regurgitation into the ventricles of the heart, into an aneurismal sac, or into a large or a dilated artery.

10th. That the remarkable resemblance between the normal and abnormal sounds of aneurism of the arch of the aorta, and the normal and abnormal sounds of the heart, renders it probable that the mechanism of their production is the same.

11th. That the abnormal sounds of the heart, having their seat at the orifices of the ventricles, and being the result of increased friction between the blood and the parts through which it passes, are (like those of aneurism of the arch of the aorta) to be regarded as nothing more than exaggerated normal sounds.

12th. That the impulse of the healthy heart, like that of aneurism of the arch of the aorta pointing externally, is *double*, not single; and that in certain abnormal conditions of the heart, this second impulse becomes very distinct, when it has been termed “the back stroke of the heart,” or “the diastolic impulse.”

13th. That the second impulse of the heart (like that of aneurism of the arch of the aorta) is felt exactly at the period of the second sound; and both sound and impulse appear to be produced by the same agency.

14th. That as sounds almost precisely similar to those of the heart are developed (in an aneurismal sac, which has neither muscular walls nor a valvular apparatus at its orifice, the latter do not appear to be as essential to the production of the normal sounds of the heart as most writers suppose.

15th. That the ordinary theory of the heart's sounds, which refers the normal

sounds to one cause, and its abnormal sounds to a totally different cause, fails to explain several phenomena connected with the heart's action and sounds.

16th. That the theory of the mechanism of production of the heart's sounds, laid down in the preceding pages, satisfactorily explains every phenomenon connected with the normal and abnormal sounds of this organ.

20. *On the Action of Diuretics.* By Dr. GOLDING BIRD.—Diuretic agents are divided into two classes by Dr. Bird. The first, termed *specific diuretics*, comprises those remedies which exert no chemical action on organic matter out of the body, and appear to be incapable of augmenting the quantity of solids in the urine, and hence they are only of use in increasing the elimination of water—they may and do act as renal hydragogues, but not as renal depurants. To this class belong squill, copaiba, broom, juniper, turpentine, digitalis, &c. All these have the power of increasing the discharge of fluid by the kidneys; but the quantity of solids present in the urine will never be found to exceed much the normal quantity. Hence, these drugs are only of service in the removal of dropsical accumulations.

The second class (termed *chemical or alterative diuretics*) comprehends those medicines which increase the amount of solid elements in the urine, and thus act as true depurants. It includes "the alkalies, their carbonates, and their salts, with such acids as in the animal economy are capable of being converted into carbonic acid, including the acetates, tartrates, citrates of soda and potass. These remedies all act alike; they all actively stimulate the excreting function of the kidneys, and increase the bulk of the urine: but they do more; they actually increase the metamorphoses of tissue by, in all probability, a direct chemical action on the elements of worn-out and exhausted tissues, or other matter in the capillary laboratory of the body. It is well known that alkalies and their carbonates powerfully dissolve albumen out of the body, and even break it up into various secondary bodies: thus, digested with an alkali, albumen yields leucine, protid, and erythro-protid, bodies allied to gelatine, formic acid, and other compounds. In like manner casein is broken up into tyrosin, leucine, valerianic acid, and other elements. From some such changes occurring in the body, and in the living organism itself, we find the chemical diuretics easily effecting important changes." This Dr. Bird has frequently confirmed by direct experiment; and he relates the case of a lady in whom, by the use of three drachms of the acetate of potass, the amount of solid ingredients of the urine passed in the twenty-four hours was increased from 416 to 782 grs., the increase consisting chiefly of creatine, creatinine, uroxyanthin, and matter rich in sulphur. The quantity of urine passed daily was at the same time increased from sixteen to forty ounces. "Now, admitting that the elements of our frames resist chemical influences in the ratio of their vitality, it would follow that such constituents of our fibres as present the greatest departure from health are less highly vitalized, and thus yield the easiest to the chemical force exerted by the alkaline diuretics. On this account it is fair to presume that, when we cause an alkaline carbonate to circulate through the blood, it exerts an influence on the nascent elements of those matters less highly influenced by life, allied to that which they exert on dead matter, aids their resolution into substances allied to those produced out of the body, and actually causes the matter to assume so soluble a form as to allow of its ready excretion."

"I would earnestly (Dr. Bird observes) beg a careful and steady trial to the *depurating or chemical diuretics*, especially the salts of potass with vegetable acids, in the treatment of chronic affections, in which the exciting cause, or existing disease, depends upon the presence of some product of less vitality or imperfect organization. I fully believe that in many instances such matters will be often found to yield, whether they present themselves as albuminous deposits in glands, furuncular disease of cellular tissue, or incrustations on the skin, as in some of the squamous and tubercular cutaneous diseases. That they will succeed in increasing the waste of matter, is, from my observation, beyond all doubt; that the lowest vitalized matters will yield to the solvent the readiest is most probable, and that an important and powerful addition to our supply of therapeutic weapons is thus certain."—*Monthly Ret.*, Sept. 1848, from *Lond. Med. Gaz.*, Aug. 11, 1848.

21. *Cod Liver Oil.*—The following account of the chief forms of disease in which

it has been found useful, is taken from an essay on the "History of the Fish-liver Oil," published in the *Gazette Médicale de Paris*.

Chronic rheumatism.—According to Alexander, Knood von Helmenstret, Amelung, Brefeld, Basse, Fehr, Galcorna, Mall, Moeunig, Munzenthaller, Michaelis, &c., who have all published their own observations concerning the fish-liver oil in chronic rheumatism, this medicine possesses such an efficacy in this disease that it surpasses in their eyes all the other remedies, without excepting the most lauded anti-rheumatics.

This opinion of different physicians, who have all experimented by themselves, cannot be taxed with exaggeration, if it is considered that amongst these cases there are found numerous instances of rheumatic patients being cured, who, after many years of suffering, and usage of all sorts of remedies, having lost their strength and despairing of cure, were completely cured by the aid of the fish-liver oil.

Rheumatic sciatica.—The fish-liver oil did not prove less efficacious in this form of chronic rheumatism, which is generally distinguished by its obstinacy; this is verified by the observations of MM. Knood von Helmenstret, Rust, Amelung, Munzenthaller, Settenger, and Spitter.

Scrofulous diathesis.—Although there are various observations published in support of the excellence of this oil for certain severe forms of confirmed scrofula, it requires something, candidly speaking, which will prove its efficacy in the scrofulous diathesis with certainty. The cause of this doubt ought not to be looked for in this circumstance, that the liver oil is less applicable in the scrofulous diathesis than in certain of the more severe forms of scrofula, but that the greater part of physicians are in the habit of only publishing their observations of the more severe cases. But if we consider that the scrofulous diathesis is the principle from which emanates, by the accession of aggravating circumstances, all the numerous and often dangerous forms of scrofula, and that the liver oil is in our eyes a true specific for the more severe forms of this affection, it is evident that this medicine is that which ought to counteract this principle with most certainty. Such is the opinion of M. Brefeld and Dr. Galama, who say that the liver oil is the most efficacious remedy for the scrofulous diathesis, and for no matter what form of confirmed scrofula.

Confirmed scrofula.—Amongst the facts relative to the use of the liver oil in some of the manifold forms in which confirmed scrofula is presented, the most remarkable are those which Drs. Brefeld and Roppe have made known, the result of which is that this medicine universally is fit for all forms and kinds of scrofula. The principal forms of scrofula in which it has succeeded are given below.

Swelling of the lymphatic glands.—Under this title we have only to do with the swelling of the superficial lymphatic glands, situated immediately under the skin, in the region of the throat, to the nape of the neck, armpits, or groins.

The fish-liver oil is considered a certain and infallible remedy in swellings of the lymphatic glands which appear oftenest, first under the form of hard unequal tumours, nearly immovable and insensible, but which afterwards, when inflammation has laid hold of the cellular tissue which surrounds them and the skin which covers them, become inflamed, and suppurate in their turn. The cure always requires a much longer time where these swellings are connected with a confirmed scrofulous diathesis. This also can be advantageously influenced by the external use of the oil by frictions on the painful and inflamed tumours; this way of employing the medicine is that which has prevailed and which is recommended by the greater number of practitioners in this form of scrofula. But if the fish-liver oil is efficacious in swelling of the lymphatic glands of a scrofulous origin, it is absolutely useless in swellings of the same glands which are the consequence of small-pox, measles, of scarlatina, or even those which are developed in the course of syphilis, or of a carcinomatous affection.

Scrofulous ulcers.—The effect of this medicine is quicker and more remarkable in scrofulous ulcers, with fungous and irregular borders, generally so difficult to cure, which arise either from suppurative inflammation of lymphatic glandular swellings, or from the dissolution of those indurated strumous tumours which are found so often in subjects of a scrofulous constitution, in all parts of the body indifferently. It has the same effect also in different traumatic lesions which so frequently

become the origin of ulcers in subjects of a full scrofulous habit. Dr. Brefeld relies greatly on the external use of this oil, with which he prepares an ointment which he applies to the ulcers by means of a pledget. In one case, notwithstanding, treated by the oil internally, the result was as favourable. The strumous tumours, which we have referred to above, and which ought to be distinguished from lymphatic glandular enlargements, are perfectly cured by the fish-liver oil, even after they have passed into the ulcerous state, provided that the oil be administered in proper time; it was the same in the case of the tumour being on the point of becoming an abscess. The tumours decreased during the internal and external administration of the medicine, and it seems they became dried up.

Chronic exanthemata.—The fish-liver oil has been proved equally efficacious in the chronic exanthemata which are developed under the influence of a scrofulous diathesis, whether they occupy parts of the body covered with hair or places which are destitute of it.

In this case, some say they have obtained the best results from the internal use of the oil, while others pretend, on the contrary, to have obtained as good results by the external use of the same remedy. The usage of it externally, tried for the first time with success by Dr. Guerard for scald head, is principally recommended by Dr. Brefeld, and who pretends, what is more, not to have obtained any good result from the internal use of the liver oil in the exanthematous form of scrofula.

The milky scurf, so often observed in ill-nursed children, in whom there have never before been observed any symptoms of scrofula, and which, according to Dr. Brefeld, forms the transition of true scrofulous exanthemata; the exanthemata which are observed on the long-haired skin of young children, and which often envelop the whole face; scald head, which is not uncommon to see last till the age of puberty; and, finally, the scrofulous exanthemata which come out on every other part of the body, were quickly cured, according to Dr. Brefeld, by the external use of the liver oil, and even after in some cases they had for a long time used the internal treatment in vain. Experience taught him that the use of the liver oil, either externally or internally, had no effect on malignant, hereditary, or contagious scald head, even when combined with oil of turpentine by the advice of Dr. Marteus; the same may be said of some psoriacal and syphilitic exanthemata.

Dr. Hauf reports a case of humid herpes causing an insupportable pruritus, which, after having resisted all sorts of remedies, was cured by the use of friction of fish-liver oil.

Rachitis.—The fish-liver oil is, without exception, the best remedy for rachitis, in all its stages, and under whatever form it presents itself; such is the nearly unanimous opinion of the German and Dutch physicians, who affirm with one accord that it is much superior to any of the so-called anti-rachitic remedies. According to Dr. Schmidt, who has most insisted on the advantages of this medicine in twenty-one rachitic patients which he had treated at the time when he made known his results, thirteen were cured, four were in process of being cured; as to the others, judging from the progress which they had made for the little time they were under treatment, a very favourable prognosis might be drawn.

In France, far from partaking of the enthusiasm of the German physicians for this medicine, they have kept on their guard, perhaps with an exaggerated distrust; its efficacy in rachitis has nevertheless appeared to some placed beyond doubt. We have said that M. Bretonneau, and M. Trousseau, by his example, had obtained good results. It is in these terms that Professor Trousseau expresses himself on this subject: "We have often obtained cures, the rapidity of which surpassed our expectation. Sometimes, after four days of treatment, the sharp pains which the children felt in all their limbs ceased; and the bones which could be bent, acquired, at the end of five days, a considerable solidity."

General conclusions.—Chemical researches have taught us that the fish-liver oil ought to be considered as a very compound medicine. Greasy neutral matter, bilious matter, iodine, phosphorus, each of them well known as possessing great therapeutic efficacy—also a certain number of organic elements, such as butyric acid, gaduine, and some others, the medical action of which is less known—finally, various inorganic salts, as the phosphate and sulphate of lime, chloride

of lime, phosphate and sulphate of magnesia, are the substances of which it is composed.

But it may be asked, to which of these components does the oil owe its special virtues? Is it to the iodine, fatty matters, phosphorus, or other principles?

If the diseases, for which the liver oil is administered with success, be duly reflected upon, it cannot escape any one that there are in each of them various indications to fulfil to obtain a cure. For the most part, there is debilitated digestion to be excited, nutrition to be regulated, secretions to be re-established, and the lymphatic system to be stimulated; while, on the other hand, the modifying of the organic nervous system is presented as one of the most important indications to be fulfilled. Neither the bilious matter nor the fatty matter, nor the iodine, nor any other principle, whatever it may be, taken alone, is capable of satisfying at the same time all these indications, and it is not to any of these substances in particular that the fish-liver oil owes its medicinal properties, and the faculty of fulfilling so different and so numerous indications. But it is by the union and co-operation of, if not all, at least the greater number of these substances.

In this state of things, the active principle of the fish-liver oil cannot be discussed in particular, like the active principle of cinchona; but attention ought to be paid, if not to all, at least to the principal elements of the oil, as each of them satisfying special indications which the diseases for which this medicine has been proved efficacious, present.

The medical researches having proved that the black fish-liver oil is more efficacious in rheumatism and scrofula than the other species, and the chemical researches having shown, on the other hand, differences, if not qualitative, at least quantitative, between the three kinds of oil examined, it follows that the principles that are in greater proportions in the black oil than in the other two kinds, ought to be considered as those which best fulfil the principal indications. Therefore it is not the neutral fatty matters, which are found in nearly equal quantities in the three species, nor the iodine, nor the phosphorus, nor the organic salts, which are found in greater quantity in the pale oils than in the black oil, which can be considered as more efficacious than the other principles for the cure of rheumatism and scrofula. It appears, then, that it is to the bilious matter and butyric acid, rather than the other principles, that the greater part of the therapeutic effect can be principally attributed, for they are the substances which are found in the greatest quantity in the variety of oil proved to be the most active.

As to the matter unknown up to this time, and which M. Jough first proved the existence of, in the product of the analysis of the different species of *Gadus*, and to which he applied the name of *Gadine*, it does not appear, on account of its insolubility, at least in the condition in which it was examined, to have a right to be considered as an active principle of the fish-liver oil. (*Gazette Médicale*, and *Dublin Med. Press.*)

—Dr. Bennett considers that the therapeutic action of cod-liver oil is due to its fatty composition, and its being perhaps more easily assimilated than other fats. He believes that in rheumatic and tubercular affections, the albuminous compounds are in excess, and the oily compounds deficient; that, therefore, the most rational treatment is to supply the deficient oily matters directly. He explains the failure of other oils to effect benefit, which might be expected, if the fatty matter is the active principle, upon the supposition that other oils, such as olive oil, are purgative. The author proceeds to state that he thinks cod-liver oil is destined, in the hands of the rational practitioner, “to be an important means of curing a class of diseases hitherto considered of the most dangerous and fatal character.”

Speaking of the effect of this oil in phthisis, Dr. Bennett's testimony is greatly in its favour; and, in fact, it may now be satisfactorily demonstrated that there is no medicine or system of treatment which holds out so much encouragement in the management of consumptive cases. (“*On Cod Liver Oil*,” *Edinburgh*, 1848; and *Monthly Journal*, May, 1848.)—*Ranking's Report on Pract. Med. in Abstract*, vol. vii.

22. *On the Internal Use of Turpentine Oil in cases of Hemorrhage.* By L. PERCY, M. D. (Proceedings of R. Med. Chirug. Soc., June 27.)—The author, after noticing the fact that several writers—Adair, Nichol, Johnson, Warneck, Copland, Ashwell,

and Pereira—have spoken of the efficacy of the essential oil of turpentine in hemorrhagic diseases, observes that this remedy seems nevertheless to be little used by practitioners. In the cases in which he first made trial of it, hæmaturia of two years' standing, in an old man of eighty, was stopped in twenty-four hours by eight drops of oil of turpentine, and did not return. He has since used it in different cases of hemorrhage, and always with a favourable result. The cases in which its use is indicated are those of passive hemorrhage. It must not be employed in cases where there is an active determination of blood, and where the pulse is full. When the discharge of blood is the consequence of organic disease, as of disease of the uterus, or of tubercular disease of the lungs, the action of the remedy is not so efficacious; but the author has seen a case of scirrhus of the womb, in which the hemorrhage was for some time stopped by this remedy. The author has found the action of turpentine oil very rapid, an effect being manifest in a few hours, often after one small dose. In order better to ascertain its power, he used it alone, without having recourse to local astringents or cold applications, where he could do so without fear of endangering the life of the patient. He has used it most frequently in cases of menorrhagia and epistaxis; but he mentions, that it appears to him to be particularly applicable in the cases of hemorrhage attending typhus. He noticed the fact that turpentine exerts different actions on the body according as it is taken in large or small doses, being more readily absorbed in the latter case; and he remarks, that as its beneficial action in cases of hemorrhage must depend on its being absorbed, the inference would be drawn, that the doses in which it is given in such cases ought to be small. His experience confirms this conclusion. He has always found a dose of from eight to thirty drops sufficient. The best vehicle for it is almond emulsion, with a little gum Arabic. When there is pain in the abdomen, a few drops of laudanum may be added.—*Ibid.*

23. *Carbonate of Ammonia in Scarlet Fever.*—The use of carbonate of ammonia in scarlatina was first advocated by M. Strahl, in Germany, and afterwards resorted to in France; in which latter country it is still highly esteemed and used by M. BAUDELLOCQUE in the Hôpital des Enfants. This physician has not only used it in mild cases, but also in the malignant form of the disease, and where the eruption has receded, and in the consecutive dropsy of scarlatina. He sums up by stating that he has derived great advantage from its use in irregular scarlatina with cerebral disorder and depressed powers; in scarlatina attended with the production of false membranes on different mucous surfaces; in hemorrhagic scarlatina; and in the dropsy of scarlatina, whether confined to the cellular tissue or extended to the serous sacs. He has administered it in the form of mixture, simple or aromatized, and in gradually augmented doses.

There can be but little doubt of the efficacy of ammonia in the eruptive and also in typhoid fevers, acting as it does as a general stimulus to the system, and as a special one to the cutaneous and mucous surfaces; and indeed, it has been considerably employed in this country in scarlatina, but not so much in the character of a specific as it appears to be viewed by M. Baudelocque, as on account of its general and special action above indicated—an action particularly required where a debilitating poison, like scarlatina, is preying upon the system. The value of ammonia in the dropsy following scarlatina has been less appreciated, but it is certainly deserving of trial; for, *à priori*, we may anticipate benefit from this medicine by reason of its stimulant action upon the capillary system at large, whereby it influences nutrition at large, and particularly that of the mucous membranes. Thus it may restore the capillary system of the kidneys to its normal condition, removing the congestion present, and unloading the uriniferous tubes of their impacted epithelial particles, and so rendering the renal secretion natural and more active, relieve the systemic dropsy.—*Lancet*, Aug. 26, 1848.

24. *On the Utility of Trisnitate of Bismuth in the Diarrhœa accompanying Phthisis.* By THEOPHILUS THOMPSON, M. D. (Proceedings of R. Med. and Chirurg. Soc., June 27.)—The author considers the trisnitate of bismuth to surpass in efficacy and safety our most approved remedies for this complaint. He has taken every opportunity, during the last twelve months, of testing its powers, and has

preserved notes of twenty-one of the cases in which it was administered. Of these, eighteen were phthisis in various stages of progress, and three, bronchitis. In fifteen of the patients the diarrhœa was entirely removed; in four, transient benefit was experienced; and the remedy proved useless only in two instances. The dose administered was about five grains three or four times daily, usually combined with a little magnesia and gum Arabic. Dr. Thompson has referred to various authors who have written respecting the properties of bismuth, but has not been able to collect from them any evidence of its powers in the phthisical variety of diarrhœa, but he entertains a strong conviction of its peculiar appropriateness to this affection, and has obtained important confirmation of his experience in a recent communication from Dr. Lombard, of Geneva.—*Lond. Med. Gaz.*, July 14, 1848.

25. *Case of Epilepsy cured by Sulphate of Zinc.*—Mr. WATSON, of Dumfriesshire, narrates (*Lancet*, July 22, 1848), the following case:—

“J. H—, aged thirty-one, and unmarried, has been subject to epilepsy since she attained the age of fourteen years. She first menstruated about that time, and the epileptic fits returned regularly every six weeks afterwards, except once, when, owing perhaps to her having received a severe burn on the chest and neck from falling on the fire during one of the attacks, the succeeding interval was three months. She is tall, and generally healthy; menstruates every four weeks; her appetite is good; her bowels regular; she has no aura, nor is she apprised of the approach of the fits in any way whatever. She is generally engaged in household matters, and occasionally employed out of doors. Previous to 1846, several medicines had been tried for the purpose of removing or alleviating the complaint, and about the commencement of that year sulphate of zinc was administered. At first, the dose was two grains daily in solution, and for a few weeks it appeared to have little effect, but in process of time the intervals became longer, and on the 16th of December, 1846, when she had a return of the paroxysm, the interval had extended to sixteen weeks. I then increased the dose to three grains daily, and she remained perfectly well until the middle of May, 1847, when she had another attack. At the end of June she had a second, and about the middle of September a third, in consequence of which I augmented the quantity to four grains daily; since that time she has had no return of the complaint. In this instance, at least, the use of zinc has been attended with the most beneficial effects, it having not merely lessened the excitability of the system, and broken the habit of periodicity, but actually rendered the patient entirely free from the malady for nearly forty weeks. Nor can the improvement experienced be attributed to any other cause, such as free exposure to the open air, exercise, ablution, regimen, &c., as no greater attention was paid to these things during the use of the medicine than had been done previously.

26. *Hypertrophy of the Follicles of the Pharynx.*—M. CHOMEL has carefully investigated this pathological condition of the pharynx, and has given it the name of *follicular angina of the pharynx*. This affection consists in an abnormal development or hypertrophy of the follicles of the pharynx, of the pillars of the fauces, and of the uvula. It may exist at any age, but is more frequent between 15 and 30. It is much more frequent in men than in women, in the proportion of 17 to 5. Accompanying this lesion, M. Chomel noticed a peculiar structural condition of the mouth and nose,—the nasal fossæ being constricted, as also the anterior and posterior nares, and the upper lip short, exposing the teeth; a condition necessarily associated with breathing through the mouth open, and which may be a cause of the enlarged follicles, by its rendering secretion more active in them. This affection often coincides with anterior herpetic eruptions, and many patients are troubled with acne. Singers are subject to it, together with a thickening and redness of the mucous membrane.

In most cases, the disease advances slowly; when arrived at a certain stage it causes great inconvenience. It frequently commences with a slight cough, without expectoration, and is generally unattended to. When the secretion becomes abundant, then it becomes troublesome. The affection is marked by a feeling of constriction in the fauces; the patient exerts himself to expel masses of mucus,

which are found over the entrance of the air-passages; he desires to drink a little water to allay the uneasiness or pain, which it will effect for a few moments. In slight cases, on depressing the tongue with a spoon, from two to ten little red points, of the size of a millet-seed and round, may be seen disseminated over the reddened mucous membrane. In a more advanced stage, these round points become discoid, or ovoid, and glistening; and in the most intense degree, we see the diseased parts projecting in the form of pillars, or projecting columns, from the sides; and lastly, these transverse folds may so entirely occupy the pharyngeal mucous membrane as to leave but a few small isolated patches of it in a normal state. The alteration of the follicles, however, is not always in relation with the intensity of the symptoms; for the latter depends much on the susceptibility or irritability of the patient.

It is not uncommon to see the follicles covered over by a thick, adhesive mucus, which must be removed before their condition is brought into view. The progress of this affection is essentially chronic; it will often spontaneously disappear; at other times will yield to very simple treatment; but sometimes also is very refractory, resisting all modes of cure. Speaking and singing aggravate the malady.

The cough attending it is guttural; it does not come from the chest, nor do the pellets of mucus, which are expelled in small quantities. The latter are small globular masses, of the size of a small pea, very adhesive, and semi-transparent; in the morning they are sometimes strewed with minute grayish-black points, consisting of inhaled carbon. The voice is generally somewhat altered; and as a similar change occurs in phthisis, some alarm may be created; but then the absence of the peculiar features of the latter disease will remove all disquietude on that score. The voice becomes soon worn out, and reading or speaking aloud soon involves the necessity of ceasing. Sometimes, owing to a piece of tenacious mucus, the patient is obliged to wait before he can articulate the smallest word. Singers perceive they have lost one or two notes, that the clearness of their voice is lost, as also its sweetness of tone.

The diagnosis presents no difficulty, unless the susceptibility of the patient be so great as to preclude examination, or render it very difficult, when care must be taken not to confound this condition of the follicles with the common normal hypertrophy of the mucous membrane and follicles, which is often present in advocates and singers, and which demands no treatment.

Cauterization is the most effectual and ready mode of treatment, but it is sometimes difficult to limit. Nitrate of silver, or dilute nitric acid on a sponge, may be used for the purpose. Caustics, however, should not be used in the first instance; gargles of borax and alum should be previously tried, and will in most cases relieve, if not permanently cure. The sulphurous waters of the Pyrenees and of Enghien, particularly the latter, have often proved useful—one or two glasses being used in a morning, gargling and then gradually swallowing. In summer, douches to the neck may be used as adjuncts. Reading aloud must be avoided, as also much talking, and the diet must be regulated. Acrid and irritating aliments must be refused, and care should be taken to masticate thoroughly parts of hard substances, as crust, which may mechanically irritate the pharynx.—*Lancet*, Sept. 2d, 1848.

27. *Pharyngeal Pouches.* By Mr. DENDY.—Mr. G. S., after some affection of the tonsils and uvula, eight years ago, placed a pepper corn in his mouth, which suddenly slipped backwards and lodged in his throat. It remained there about a week, causing great irritation, but was eventually dislodged. He has ever since been aware of the temporary lodgment of foreign bodies in the same situation, but has not felt anxiety upon the subject. Gradually these lodgments seemed to increase, and large bodies became arrested in their course, the secretion of saliva becoming profuse. About two years since the uvula was excised, by which the complaint was much aggravated.

At the present time the patient is compelled to fill the pharyngeal pouch with soft solids, to the extent of two ounces, before he can get any food to pass into the stomach. He can at any time eject the contents of the bag.

In a second case, in the person of a bishop, now deceased, the affection came on imperceptibly, and could not be traced to any particular cause. The contents

were often spasmodically expelled, and the breathing was occasionally interfered with.

Mr. Dendy, the narrator of these cases, appends the following remarks:—

As to the anatomy of these curious cases:—The pouch, I believe, usually dips down between the œsophagus and the vertebræ, occupying, in fact, the place of the œsophagus, which is pressed against the trachea, and suffers attenuation of its coats from this compression. It is also strained or puckered by various degrees of traction, constantly increased, of course, by gravitation and the weight of the ingesta. This at length forms a valvular communication between the pouch and the œsophageal canal immediately below the cricoid cartilage in front, and opposite the fifth or sixth cervical vertebra behind, thus not only impeding or entirely obstructing deglutition, but even preventing the introduction of a bougie or hollow tube, through which aliment might be admitted into the stomach, unless the relative position of the cavities be distinctly understood.

Now, what are the especial tissues which constitute the pouch?

May we not place the cases to which I have referred in the same category with those diverticula or pouchings, not only of the intestines, but of those other tubes which are frequently submitted to the influence of contraction and dilatation.

The lodgment of foreign or indigestible bodies will sometimes pouch the stomach itself. Amongst other persons, Dr. Baillie saw a capacious pouch thus and therein formed, which contained five halfpennies.

The cells of the colon are often immensely distended by scybalæ, especially in young women, although apparent regularity of defecation may have averted the slightest suspicion of such a state.

Although the etiology may differ, we may adduce, as analogies, those dilatations found above the contractions of tubes, whether by spasm or thickening of coats. We may refer to the bulging abscess and infiltration behind urethral strictures; to the bagging of the bowel, when its calibre is diminished or contracted; and I may express my belief, that many cases which have been considered to be merely stricture, are indeed closely allied to those with the recital of which I commenced my observations.

And does the bag consist, or not, of the entire pharyngeal tissues?

I believe that it may consist of thickened mucous membrane only, and that continued and progressive pressure (as in the lodgment of a body in the sacculus formed by the rather sudden contraction of the pharynx, into the œsophageal tube, increased by the effort of severe coughing, especially when combined with pulmonary disorder, as in the case of my present patient and the bishop), may have actually split or separated the muscular fibres of the canal, thus constituting a hernia of the mucous membrane analogous to the formation of true aneurism from muscular effort, or, perhaps, more nearly allied to those cases of double bladder, one of which is recorded in the last volume of the *Transactions* of the Medical Society. The coats of gastric pouches are usually much attenuated, and that not from inflammation or ulceration, but from mere mechanical pressure.

Now, on the assumption that many of these interesting cases may have been mistaken for œsophageal stricture—a simple contraction of canal—we may confidently point to one probable cause of difficulty or failure of the introduction of the bougie, in consequence of the *valvular orifice* (for such, indeed, it may be termed), of the œsophagus, and the constant slipping of the bougie into an artificial cul-de-sac. A point in practice may hence be adduced. In cases of difficulty, it would be well to place the patient nearly on his back, so that the pouch may rest on the spine, and then to press the bougie forwards on the trachea, at the same time up-lifting the trachea itself. If the existence of a pouch be determined, the same plan should be adopted, and this immediately after the emptying of the pouch.

Regarding the permanent relief or obliteration of these bags, I cannot yet speak practically. I contemplate, however, the employment of a canula and sponge, slightly wet with a very strong solution of nitrate of silver, if the symptoms of my present case should, by their aggravation, warrant this proceeding. At the same time, I should impart nutrition as much as possible, or altogether, through the elastic tube introduced into the stomach, so as to close the mouth of the pouch, and put it, as it were, out of office.

I believe that relief might be insured on one or other of these principles—either the shrinking or contraction of the bag, by its being kept empty and compressed, or by the adhesion of its sides, so as to produce complete obliteration; for although the mucous membrane is not so prone to adhesion as the serous tissue, we have very sufficient analogies to warrant that it might ensue in such a case.—*Prov. Med. and Surgical Journal*, Aug. 9, 1848.

28. *Practical Remarks on Croup.* By Dr. H. ZERONI.—The most ordinary form of croup is *Congestive Croup*. This form generally occurs at a time when there is a tendency in the weather to induce catarrhal affections, manifesting itself suddenly, generally in the night, and without any precursory symptoms: with the exception, perhaps, occasionally of a slight cold in the head. In this form of the disease, children wake from a quiet sleep with a sharply barking kind of interrupted cough, raise themselves in bed, and begin to cry in apparent distress, a piping hissing inspiration being occasionally heard, as well as in their coughing. The countenance is often flushed and turgid, but the respiration is not hurried, and but little febrile excitement is perceived in the pulse. When the attack subsides, the child again falls asleep, and rests quietly till the morning; occasionally, however, the attack recurs, respiration becomes more noisy, rattling and hissing, and the child either vomits, or simply makes an effort to do so. This form of the disease requires little more than careful nursing for its cure; the child should be kept in bed, be made to drink copiously of warm drinks, partake freely of some oily emulsion, and have a sponge steeped in hot water laid on the neck. If, however, a hissing hurried respiration causes apprehension of a recurrence of the attack, the most effectual means is to give an emetic, continuing its use until the child has vomited several times. (This form of the disease appears to be induced by an hereditary and acquired predisposition.) To young children during the first year, Dr. Zeroni gives $\frac{1}{4}$ gr. cupr. sulph. every quarter of an hour.

The second form is *Inflammatory Laryngeal Croup*. This is far more serious in its nature, and never occurs without premonitory symptoms, or where it may not be referred to the action of some injurious influences. It may have been induced by the pre-occurrence of the milder form, or owing to exposure to bad weather immediately after recovery from a former attack. The characteristic symptoms of this second form of croup are as follows: Broken, rough, whistling cough; the inspiration is quick, and has a sharp sound; the child is restless, moves the hands, bringing them frequently to the head and neck. The face is hot, red, or purple, the neck swollen, whilst the pulsations of the heart and arteries are rapid. When the attack subsides, the child becomes strikingly animated, enters into his customary sports, and evinces no desire to lie down or to go to sleep. Respiration after the first attack, and even after several attacks, is quiet and natural; it becomes, however, gradually more hurried and noisy, and a faint rattling is heard, which assumes by degrees a metallic sound. Hoarseness increases, and the voice becomes low and whistling. The attacks come on more frequently, and the child is more restless and irritable during the periods of intermission, whilst the pulse grows fainter and fainter. This uneasiness, however, ceases. The child dozes continually, lies on its back, with its head thrown back and pressed into the pillow; the throat protrudes: the countenance is drawn, pale, and swollen, somewhat of a bluish or yellowish tinge. The eyes are sunk, and half shut; whatever is handed to the child is impatiently pushed aside, and nothing can induce it to drink. The respiration is loud and rattling, all the muscles of the neck act convulsively, the pulse is frequent and small. The child dies either in this state of sopor, with the symptoms of paralysis, or in the midst of convulsions induced by another choking attack of cough.

This form of disease requires prompt and energetic treatment. No time should be lost in abstracting blood, and no apparent amelioration of the symptoms should hinder the frequent application of leeches, in proportion to the age, until the child begins to evince an appearance of exhaustion from loss of blood. A second important means is cupr. sulph.; from 3 to 4 grains of which should at first be given in order to induce vomiting, and the dose should be then reduced to $\frac{1}{2}$ or $\frac{1}{4}$ of a grain, every half hour, or hour, until the disease assumes a favourable turn. Dr

Zeroni also speaks of the invaluable aid he has derived in some cases of *this* form of croup, but not in any other, from a combination of musk and opium.

We now proceed to notice the third form of croup.

Inflammatory Tracheal Croup.—This is likewise attended by premonitory symptoms, and induced by pre-existing or extremely injurious influences. It generally occurs in the months of February and March. Children catch cold, have a dry, somewhat rough, cough, which being often disregarded, they are frequently suffered to expose themselves to cold and damp; the hoarseness and cough gradually increase, but this state often continues for upwards of a week before the occurrence of the fit of choking, and before medical advice is sought. After the first attack, the child is often cheerful and even at times extremely merry. The voice is quite gone, the respiration somewhat hurried, and more or less rattling; the cough not frequent, short, rough, unattended by a whistling inspiration, no expectoration, or if any, merely a white frothy mucus interspersed with a few streaks of blood; the pulse quick, the skin warm, and the urine natural. If the little patients are able to speak, they complain of pain in the neck and the middle of the chest. By degrees the choking fits become more frequent, the respiration more hurried and difficult, and the tone accompanying it rougher and more croaking. Extreme hilarity and the most remarkable movements alternate with excessive lassitude, during which the child sinks down exhausted, falls asleep, exhibiting the most marked disinclination to be spoken to or touched. The cough becomes a noiseless suppressed expulsion of air, the attacks are accompanied by a violent noisy rattling sound, the muscles of the neck become powerfully convulsed, and the head is thrown far back. The pulse is small and quick, the skin drawn, the muscles extremely relaxed, the face swelled and puffy, the lips blue. The child dies in a state of sopor, as if from asphyxia. This form is more fatal to children under two years of age, than to those who are older. It is met with in children of six, or even occasionally, nine years of age.

The application of leeches is of the greatest importance, since on this depends the result of the whole treatment. If a sufficient number of leeches be early applied to the neck and chest, we may regard the termination of the disease as probably favourable. Emetics do not appear to have much influence here, although they occasionally relieve the respiration.

The fourth form, which is designated by Dr. Zeroni as *Aphthous Croup*, is the most dangerous, but fortunately also the most uncommon; it has only been observed in autumn, during a continuance of stormy, cold, and rainy weather. It never occurs unattended by premonitory symptoms. The child is somewhat excited, occasionally flushed, and appearing from time to time to have transient febrile symptoms. As, however, it is cheerful, sleeps well, and has a good appetite, these symptoms are too often neglected, and the child is suffered to go out in the damp or cold, until at last it complains of pain on swallowing. On examining the throat, the tonsils are found to be somewhat swollen, reddish, and covered here and there by a yellowish-white puriform investment. The submaxillary glands are swollen. The child continues, however, cheerful, and there is scarcely a trace of fever. The aphthous streaks or points now extend gradually more and more, approaching each other. On removing part of this investment from the tonsils, we find that the subjacent membrane is of a brownish-red colour, but not dry. Deglutition becomes more painful, but still there is no fever, and it is not till the fourth or fifth day that the symptoms assume a more serious character. Hoarseness comes on, a low singular kind of cough is heard, and occasional oppressive sensations are experienced. The disease soon runs its fatal course, and the child, after several days of indescribable suffering, dies in a state of sopor, under circumstances similar to those of which we have already spoken. A prophylactic mode of treatment seems the only one that is of avail in this form of croup; and, considering the nature of the disease, too much stress cannot be laid on those means of prevention under the control of parents—such as prompt attention to any symptoms of indisposition manifested by young children, and care not to expose them to the open air until all morbid symptoms are entirely removed; since Dr. Zeroni mentions that where once this aphthous affection of the tonsils was established, he never yet succeeded in saving the child; leeches, tartar-ermetic, and calomel being all without avail. The only means which he considers at all likely to produce a

favourable result, are the external application of caustics, as suggested by Aretæus. Dr. Zeroni considers that this aphthous affection of the tonsils may occur in adults, although in their case he has never observed a fatal result. The disease may manifest itself alone, or conjointly with febrile diseases; but he has not found that in this latter case the local affection rendered any change necessary in the mode of treatment for the main disease.

The fifth form of croup, observed by Dr. Zeroni, is *Suppurative Croup*. This is invariably found to have been preceded by a fully developed catarrh, and usually occurs at the close of winter, and the beginning of spring. It begins with more or less fever, restlessness, insomnia; the cough that was previously loose, becomes dry, rough, and barking, without being attended with a whistling inspiration, or a metallic sound. The cough comes on by fits, during which the child tries to sit up, bends the head forward, and puts its hands to its ears, tongue or mouth. The attacks are not attended by choking, but cause distress by the continuance of the short broken cough. The child is hoarse from the beginning of the disease, but loses his voice entirely after a time; cases, however, occur, in which the cough is at first loose, and the voice clear, but where there is much fever at the beginning of the disease, and even strongly marked delirium occurring at night. Fever gradually increases, the child sleeps almost continually, actual suffocative fits at length come on, the respiration becomes hurried, gasping, and rattling. The child is pale and appears swollen; and finally torpor supervenes, with an extremely quick pulse and profuse perspiration, and the child not unfrequently dies in convulsions.

If the disease is neglected, it generally proves fatal to infants and very young children from the ninth to the eleventh day. In adults, it may be prolonged to the fourteenth or eighteenth day; in the latter case the attacks are much more violent. The suffocative attacks which generally supervene on the seventh day are most distressing; the child starts up with violence, tears, scratches, and bites everything it can lay hold of, often tearing its hair and biting its hands; it appears to be in most fearful struggle, and in the height of its agony, the hoarseness suddenly disappears, and it cries in a loud voice for help; the short cough becomes looser, and mucus is expectorated, the fever abates, and finally the dreadful sufferings of the little patient terminate in symptoms of paralysis.

This form, like the others, demands a prompt and early application of leeches, which must be repeated with a frequency proportionate to the age of the child and the violence of the fever; it is almost the only thing to which recourse can be had, but as soon as the cough becomes somewhat less distressing, and the fever abates, a favourable termination of the disease may be hoped for; occasionally, however, much service is derived from cupr. sulph., given in sufficient doses to produce vomiting; this must be done when the cough and fever have abated, and the suffocative attacks have begun. The above forms of croup are only met with in children, and seldom after their sixth year. Dr. Zeroni scarcely attaches any faith to the opinion entertained by many, of the fatal nature of croup in adults. He says that he certainly has observed all the symptoms of croup most strikingly manifested in women, but these were found to depend on uterine derangement, and yielded to a mode of treatment adopted with reference to diseases of the latter kind; and he considers that where adults have sunk under croupous symptoms, they must be ascribed rather to œdema glottidis than to genuine croup.—*Brit. and For. Med. Chir. Rev.*, July 1848, from *Henle u. Pfeuffer's Zeitschrift für rat. Med.*, 1847.

29. *On Diabetes*. By R. B. TODD, M.D.—The *Prov. Med. and Surg. Journal* (June 28) contains an interesting lecture on diabetes by Dr. Todd, with the particulars of two cases of the disease treated in King's College Hospital. The following are the inferences which Dr. Todd draws from these two cases:—

1. The first of these is, that the azotized dietetic plan of treatment is efficacious; that the patients were more benefited by it than by any other means; and that the admixture of a small quantity of vegetable food did not very materially interfere with its favourable operation.

2. The evidence furnished by these cases is opposed to Bouchardat's theory, that the sugar is wholly derived from amylaceous food, and is little, if anything, short of a refutation of it. Take, for instance, Hardy's case: when he was put into the solitary ward, he was deprived of all amylaceous food, and yet he still

continued passing from two to three ounces of sugar daily. But it may be said that this was furnished by the greens, which he then took—this, however, could not be the case, for they would hardly weigh as much as the sugar that was evacuated; but there was one period in which he did not even take greens; he took no vegetable food whatever, but lived entirely on meat, and that deprived of fat as much as possible. This period was from the 15th to the 24th of December; notwithstanding, however, this total exclusion of all vegetable matters from his diet for nine days, he evacuated in that time from twenty-five to thirty ounces of sugar, and his own bodily weight was all the while increasing. Whence, I would ask, could all this sugar have been obtained? The same circumstances occurred in Bowles's case though not, perhaps, to so striking a degree.

3. The great increase of the power of the stomach is truly remarkable; these men found no difficulty in digesting four pounds of meat, besides several eggs, in one day, a task twice as great as any ordinary stomach could perform. The highly developed condition of the mucous membrane of the stomach was, no doubt, associated with this exalted power of digestion, and probably exists in all these cases.

4. The fact that sugar could not be detected in the substance of the kidney, goes to show that it is not there secreted, that it does not enter into any organic connection with the elements of the kidney, but merely percolates in solution through it; hence the disease of the kidney must be secondary. The sugar doubtless reaches the kidney in solution in the blood, and there acts upon that organ as a diuretic, passing possibly dissolved in the water that filters through the Malpighian bodies, and not being attracted from the blood through the walls of the tubes.

5. The comparative conditions of the epithelium of the liver and kidneys are very singular, and I am not aware that a similar observation has been previously made; it would tend to show with what avidity all carbonaceous matters, fat as well as sugar, are directed to the kidney, in this disease. Most probably, to some extent, the fat of the liver goes, in common with fat from other parts of the body, to the formation of sugar; but this does not account for the deposition of fat in the epithelium of the kidneys.

Lastly, these cases justify the conclusion that this disease is essentially one of the primary organs of digestion, whereby all substances readily convertible into sugar are quickly so converted; and that sugar is not digested, but passes into the blood unchanged, whence it is rapidly eliminated by the kidneys. We must not forget that this was, in fact, the view taken of this disease by Dr. Rollo, an English physician, who was the first to suggest the plan of treatment, which all experience proves to be the most beneficial.

30. *Statistical Researches on Chorea.*—Dr. EASELMANN, after collecting reports of cases from different authors, and adding to them his own, finds that females are much more prone to chorea than males, in the proportion of 73 to 27 in 100 cases. Up to the age of 11, of 33 patients, 22 were girls, 11 boys; from 11 to 15 years of age, of 45 cases, 34 were in females, and but 11 in males; above 15 years old, of 22 patients, 17 were women, and only five men.

Thus, whilst the proportion of males remains the same before and after the age of 10, the proportion of females increases remarkably from the 10th to the 16th years—a fact which leads to the conviction that the period of puberty exercises a great influence on the development of the disease.

Respecting the causes of chorea, fright is the most common. Thus, in the 100 cases, 31 were referable to this cause. Next in the category, rheumatism appears to be a not uncommon cause, eight cases in 100 being traced to it. In 42 instances, the exciting cause could not be arrived at.

The interval elapsing between the operation of the exciting cause and the onset of the morbid phenomena, was not noted in 74 cases. In eight, the chorea manifested itself immediately, in 13, after a week, and in five, after two weeks or more.

Of the success of remedies used, purgatives alone, or combined with diet, were successful in six cases, and of benefit in another; two cures are referred to rhubarb administered in port wine; arsenic was employed in seven cases, in two with success; iron in 29, effecting a cure in 19, and benefiting in two cases; zinc,

in the form of the sulphate chiefly, effected a cure in 45, and improved the state in two others. Quinine, gentian, chamomile, and nux vomica were tried in nine instances, and cured in three. Antiphlogistics were used with three patients, curing two, and relieving a third. Electricity has proved of great service in old and rebellious cases, chiefly in young women in whom the chorea had an hysterical character; and in children, where the disease was not dependent on irritation; nine cases of cure out of 15 are attributed to this agent, but in five of those nine cases oxide of zinc and carbonate of iron were conjoined in the treatment. Affusion has also succeeded, but not to such an extent as electricity.

In fine, of the 100 cases, 80 were cured, seven nearly cured, ten relieved more or less, and three died. The duration of treatment was for three weeks in 24 cases, from three to six weeks in 40, from six to eight weeks in 23 cases, and from two to three months in 13 other instances.—*Lancet*, July 15, 1848.

31. *Epidemics of Fever*.—The past year has been signalized by the almost universal occurrence of outbreaks of fever, varying in intensity, but, for the most part, exhibiting a malignity which has been followed by unprecedented fatality. Independently of the interest which attaches to these fearful visitations as matter of scientific reflection, the recent epidemic may claim a deeper hold upon our minds, of another character, arising from the awful ravages committed among our own ranks, and the consequent sacrifice of every worldly comfort to hundreds of those helpless ones in whom we ought all to take a personal interest.

Histories have been furnished of several of these epidemics, or, rather, of the same epidemic as it appeared in different localities, of the principal of which we purpose to give a brief analysis.

Dr. PAXTON, (*Prov. Med. and Surg. Journal*, Nov. 3, 1847,) of Rugby, describes fever as it appeared in a mild form in that neighbourhood. It is stated by him to have been generally preceded by diarrhœa, and to have rarely been fully developed when that symptom was judiciously treated. The febrile symptoms are said to have declared themselves under three degrees, and were recognized as follows:

The countenance expressed stupefaction; chills followed by heat occurred every half hour, with headache, quick pulse, furred tongue, epigastric pain, loaded urine, &c. These were the symptoms of the milder form, and soon subsided. If, however, the noxious influence had been more decided in its effects, the second degree of fever was observed. This differed from the first chiefly by its greater intensity. The patient, at the early stage, had a deep flush on the cheek, alternating with paleness; dry skin; thirst; thick, drab-coloured secretion covered two-thirds of the tongue; the pulse rapid, i. e. from 110 to 130; urine turbid. Uniformly there was a certain amount of cerebral disturbance, indicated by moaning or crying out, with sudden sharp pains. A restlessness and delirium existed in most cases, and led one to suspect meningitis. After the subsidence of the latter symptoms, marked pervigilium was observed, which was followed by unusual torpor.

The third degree exhibited the common characteristics of typhus.

In referring to the treatment of this epidemic, Dr. Paxton takes occasion to criticise the opinion that wine and a cordial plan of treatment are necessary in fever, and illustrates his position by the detail of cases in which mischief was supposed to have arisen from this practice. He proceeds to state, that the successful treatment of this epidemic depended on the strictest attention to regimen; errors in diet were fatal. All kinds of stimuli had the effect of increasing arterial action, congestions, and cerebral disturbance. It was only in the stage of *perfect subsidence* of the malady, that wine could be taken with impunity. He remarks that he had often to regret the permission he had given to use wine at too early a period. The most mild species of nutriment were the best for the patient. Time after time has he known a generous diet, such as beef-tea and wine, to derange the viscera, and to have a direct tendency to excite organs already too much excited by febrile phenomena, and the consequences were invariably a correspondent depression of the vital powers. The principle which suggests wine, and the highest nutriment in low fever, in theory is, he says, plausible enough. "To oppose what was esteemed strength to weakness, is a theory which readily gains an ascendancy in the minds of those who are ignorant of the management of

diseases. They are haunted by the single perception of *debility*; but the exhibition of wine, to counteract the debility, only involved the patient in additional dangers. At the advanced stage of fever, wine is the medicinal extreme unction for the patient's dismissal. In the earlier stages, it may be symbolized by the golden cup filled with abominations." There could be no compromise, he observes, between wine and the Rugby fever. It was not long before he found, that either the nature of the fever, or the peculiar habit of persons in this locality, would not allow of the administration of stimulants without decreasing the chances of recovery.

These remarks respecting the use of wine in fever, are certainly not in accordance with the opinions of the best authorities, and differ widely from the views expressed in the following communication by Mr. Bree, of Stowmarket.

Mr. BREE gives the history of an epidemic fever as it was witnessed in the parish of Finborough, in Suffolk, the account of which embraces points of great interest, more especially as respects the disputed point of contagion, the operation of which on the cases in question he establishes beyond the possibility of doubt. In the treatment of the disease he exhibits a full acquaintance with what we believe to be the most satisfactory therapeutics of fever at present known. The indications he kept in view were:

1st. To obviate the effects of local congestion, and of what he believes to be in fever altered blood; which effects, again, he believes we see in or about the capillary system, or in ulceration of Peyer's glands, &c.; and,

2d. To prevent his patients from dying by asthenia; to keep them, in fact, alive.

The first indication he attempted to fulfil by the use of the pulvis sodæ comp. of Guy's Hospital, a most useful medicine in these cases. It is composed of carbonate of soda, compound chalk powder, and calomel; sixteen grains contain one grain of calomel. Of this he gave from five to twelve grains every four hours, with or without a solution of the carbonates of soda and ammonia.

The second indication he endeavoured to fulfil by the administration of port wine, with or without brandy, in large quantities.

In the cases he has detailed there were frequently abdominal and thoracic complications; in one case there was decided pneumonia, but he did not on this account omit the wine, though he pushed on the mercury. He was equally regardless of delirium, which is, probably, always an effect of innervation in these cases; and of the dry tongue. Whenever he found unequivocal indications of debility, as evidenced by a quick, thready, irritable pulse; trembling; sordes about the mouth and teeth, &c., he invariably gave wine. The result of the cases related fully bears out the propriety of the practice.—(*Prov. Medical and Surg. Journal*, April 15, 1848.)

The fever which has recently prevailed in and about Kilkenny has been described by Dr. LALOR (*Dublin Quarterly Journal*, Feb. 1848), under the name of "gastro-enteric fever," derived from the prominence of gastric and intestinal symptoms. The invasion of this form of fever was sudden, setting in, in general, with rigors, followed by delirium or dullness of intellect, vomiting, diarrhœa, pains in the joints, &c. After the continuance of these symptoms for six or eight days, the fever usually subsided. The relapses, which were frequent and often fatal, assumed one of four forms:

1. Pyrexia attended with severe pains, similar to rheumatism, often terminating favourably in from three to seven days. 2. Pyrexia, with distressing nausea, and vomiting of a grass-green fluid; prostration; cold, clammy skin, &c. 3. A combination of the two preceding forms. 4. A species of protracted fever with nausea, irregular bowels, and variable pulse; termination usually favourable.

In 1845, a purpuric eruption began to be a concomitant of the fever. In the spring of 1846, this combination became more general, the fever at the same time putting on a more typhoid type with diarrhœa, general œdema, and gangrene. The eruption generally appeared first on the upper part of the chest, subsequently on the abdomen and extremities, seldom on the face. In bad cases there were large distinct bullæ filled with a bloody serum. The gangrene usually appeared in the mouth, the pudenda, or anus; bad sores and gangrene of the extremities were rare.

The treatment followed by Dr. Lalor in this fever was, in the first instance, expectant. In collapse, external warmth and stimulants were employed. Blisters were found useful for the præcordial pains, but leeches and depressing diaphoretics were ill borne. In the relapses, a stimulating treatment was imperatively called for.

The post-mortem appearances in fatal cases of this fever were chiefly remarkable in being associated with or produced by purpurous extravasations, similar to those on the skin. These were found on the peritoneum, pleura, mucous membrane of the stomach, intestines, and bladder. Apoplectic effusions were also found on the lungs and in the substance of the muscles. On the mucous surfaces these blotches terminated in ulceration, which were of two kinds, one small and circular, with a disposition to granulate, the other sloughy, with fungous granulations similar to the spongy sanies of scorbutus. The liver was of normal size, mottled and friable; the spleen was generally enlarged; the kidneys sometimes presented purpuric spots; the heart's substance generally softened.

In alluding to the causes of this epidemic, Dr. Lalor hesitates to attribute it entirely to the effects of famine; but he admits that the purpuric or scorbutic character was associated from the date of the failure of the potato crop, and increased as destitution advanced. The fever appeared to be decidedly contagious.

Mr. BOTTOMLEY, of Croydon, has also published an account of fever as it appeared among the Irish labourers who had come into that part of the country to get up the harvest. The type of fever is shown to be the "simple continued," with tendency to typhoid depression. The writer states that there was no reason to believe it infectious, unless in the event of close crowding of the patients and inattention to ventilation.—(*Prov. Journal*, Dec. 29, 1848.)

Lastly, Dr. ORR has furnished a historical and statistical sketch of the epidemic fever in Glasgow; and, amongst other useful information, gives a vivid picture of the dangers which were encountered by the medical attendants. In one parish alone, seven out of seventeen surgeons took fever, three of whom died. In another district, containing seven surgeons, three perished. In all, no fewer than 117 persons, engaged in attending fever patients, contracted the disease, of which number 30 were ascertained to have died. (*Ed. Med. and Surgical Journal*, No. 175.)—*Ranking's Report on the Progress of Pract. Med. in Retrospect*, vol. vii.

32. *Cold Douches in the Treatment of Intermittent Fever*.—M. FLEURY has presented a memoir to the French Academy of Sciences, on the use of cold douches in ague.

He was led to these researches by the assertion of Dr. Currie, that the accessions of ague might be prevented by the affusion of cold water, and that by its repetition four or five times, the disease might be entirely cured. M. Fleury has employed this means one or two hours before the expected paroxysm, in the form of a general douche, and in that of a local one to the region of the spleen.

The ends attained by the above plan he believes to be—1. A shock exerted on the nervous system, and on the general capillary circulation. 2. The opposing of a vigorous reaction and general stimulation of the surface to the cold stage of the fever. 3. A modification of the circulation of the spleen, combating congestion of that organ.

He has pursued this treatment in eleven cases of intermittent fever. In seven of them the disease was recent, and there had been but from three to seventeen paroxysms; quinine had not been administered in any one. In two cases, the spleen preserved its normal size; in five, it was enlarged: a cure was effected in all. In one, a single douche sufficed to cut short the fever. In two others, two affusions were necessary to do so, and to restore to the spleen its natural dimensions. In the remaining four, affusion was practiced three times.

In those patients where two or three douches were used, the effects produced were constantly the same. By the first application, the accession was retarded two or three hours; the rigors less violent, and shorter by one-half or five-sixths the time; the heat and headache were equally lessened; and the total duration of the fit was diminished by at least one-half. Age and the type of the fever did not exercise any appreciable influence over the effects of the treatment. Where, however, the volume of the spleen was larger, the time required for the cure was augmented. Four patients had suffered from the disease for from two to eleven

months, having had several relapses, and resisted the action of sulphate of quinine, and presented the anæmia, emaciation, anorexia, &c., seen in those who have been long affected by ague. Three douches were required in two of these cases, and five in one other, to remove the fever; but from eight to eleven were necessary to cause the splenic engorgement and the cachectic symptoms to disappear. In one case the liver was very greatly enlarged; but this condition disappeared by perseverance with the affusions.

M. Fleury arrives at the following conclusions:—1. In the treatment of recent intermittent fever, simple, and with little or no engorgement of the spleen, cold douches may be substituted for quinine. 2. In the treatment of old-standing ague, where several relapses have occurred, and there is considerable enlargement of the spleen, or of the liver, with a cachectic condition, cold affusions are to be preferred to quinine; for they cut short the fever, restore the viscera to their natural volume, and remove the cachexy more rapidly and more safely than quinine; the latter, in large doses, not unfrequently acting injuriously upon the nervous system, or on the digestive organs. (*Bulletin des Académ., and Lancet.*)—*Ibid.*

SURGICAL PATHOLOGY AND THERAPEUTICS AND OPERATIVE SURGERY.

33. *The Question of Amputation in Gunshot Wounds.* By M. MALGAIGNE.—This question has formed the subject of a most interesting debate in the Academy of Medicine, Paris. MM. Roux and Baudens having concluded their communications,

M. Malgaigne observed, that the point towards which it was more especially his desire to call the attention of the Academy, was the treatment of fractures of the femur by war projectiles. It was a generally received opinion, more particularly promulgated by military surgeons, that such fractures required amputation. This was the practice of Ravaton, one of our great military authorities; Larrey, less exclusive than his predecessor, thought the extremity might be still preserved when the shot had only occasioned a simple fracture of the lower fourth or even third of the femur; but that all fractures occurring higher, in consequence of a gunshot wound, absolutely required amputation. M. Malgaigne then recalled the opinion of Ribes, who inclined towards considering all injuries of the femur, occasioned by musket balls, as cases for amputation. M. Malgaigne himself had adopted at one time this mode of thinking, and had applied it upon a field of battle; but the results were most unsatisfactory, and in the Polish campaign he had lost all the cases of amputation performed upon the thigh after gunshot wounds. On his return to France, M. Malgaigne had endeavoured to explain to himself this frightful mortality; and, on reading over the memoirs of M. Ribes, he was struck with an important fact, which that author honestly acknowledged:—"Out of 4000 invalided soldiers," said M. Ribes, "he had not found a single case of injury of the femur by shot. This was a proof, in his opinion, that all the men who had suffered from such wounds had died." But, on the other hand, amongst these 4000 cases, M. Ribes had not found a single case of amputation of the thigh—a fact which proved to M. Malgaigne that all these operations had been fatal, and that amputation did not afford more chances of preserving the lives of the wounded than the opposite practice.

On inquiring further into the details of the question, M. Malgaigne had arrived at this conclusion, that the same doubts might with justice be applied to all amputations performed in the treatment of injuries by war projectiles.

The question of immediate amputation might be said to be one of the most important points of modern surgery. In the ancient Academy of Surgery it was the object of a long debate; and Boucher had said that two-thirds of the cases of amputation terminated fatally.

After Fontenoy, out of 300 cases, Faure asserted that only thirty or forty were cured.

Bilguez states that, during the seven years' war, scarcely one or two cases had been saved out of numberless operations.

On the other hand, M. Malgaigne would lay before the Academy more recent statistics of a very different tendency.

Fercoq said that, of 60 primary amputations, only 2 cases did not recover, *i. e.*, 1 out of 30.

Percy was not quite so fortunate; of 92 amputations of the leg, thigh, and arm, 6 cases died, *i. e.*, 1 out of 15.

Guthrie, at New Orleans, performed 45 immediate amputations; 7 cases terminated fatally—1 out of 7; at the battle of Toulouse, 47 amputations, 9 deaths—1 out of 5.

The English forces during the Spanish war presented 291 amputations, 24 deaths—1 out of 8.

Del Signore, at Navarino, 31 amputations—1 death.

The English surgeons at Aboukir and Camfordomer reported 30 amputations; all were successful.

Larrey, on the 27th and 29th Brumaire, 13 amputations—2 deaths.

M. Malgaigne had further drawn up a list of the amputations performed in the hospitals of Paris, for traumatic lesions, during a period of ten years—from 1836 to 1846. These statistics were instructive. 165 amputations had been performed upon men, and 17 upon women. The mortality had been 107 for the former, and 10 for the latter. How were these amputations subdivided? The following was their classification for the men:—

	Amputations.	Deaths.	
Thigh,	- - - 44	34	over 3-4
Leg,	- - - 67	42	near 2-3
Foot,	- - - 8	5	over 1-2
Shoulder,	- - - 7	7	
Arm,	- - - 29	17	nearly 2-3
Forearm,	- - - 10	2	" 1-5

Thus, in Paris, in the best hospitals, under the care of the first surgeons in the world (!), the average mortality of primary amputations was equal to two-thirds of the cases.

These were certainly unexpected results, and must, doubtless, cast some doubts upon the numerous successes which had been previously enumerated.

Circumscribing the question to narrow limits, *i. e.*, to the results of amputation in fractures of the thigh or leg, M. Malgaigne could bring forward an equally important document. In 1830, Dupuytren had under his care 13 fractures of the thigh in which he did not operate; 5 cases cured, 7 died; another was operated at a later period, and proved fatal.

In fractures of the knee or leg, Dupuytren performed 5 primary amputations of the thigh, 3 patients died; 4 secondary amputations, 4 deaths.

For the other fractures of the leg, in which the same surgeon did not amputate, 14 were fractures of both bones, 8 died; 2 of the tibia, 1 death; 2 of the fibula, 1 death. He performed two primary amputations of the leg: both cases terminated fatally.

Such were (continued M. Malgaigne) the precise documents existing in science; they tended to prove that the opinion of military surgeons, relative to the advantageous results of primary amputations, did not rest upon a very solid basis.

The following general conclusion might be adopted, *viz.*, that, in attempting to preserve the limbs of the wounded, the surgeon did not cause them to incur any greater risks than if amputation were performed.

All these considerations had greatly modified M. Malgaigne's opinions on the subject, and had changed his practice in similar cases.

The events of June had furnished him with a melancholy occasion of verifying again the correctness of his newly adopted views; and this led him to expose before the Academy the results he had obtained at the Hôpital Saint Louis, in a service where an enormous number of wounded had been admitted.

He would acknowledge at once, that in some wounds all debate about the propriety of amputation should be set aside; thus in gunshot wounds of the hip or knee joints the operation was evidently unavoidable. These cases excluded, the following had been the result of the fractures, in which M. Malgaigne had refrained from amputation:—

5 fractures of the thigh :	2 recovered,	2 deaths, 1 secondary amput.
6 fractures of the leg :	2 doing very well,	4 deaths.
2 fractures of the tibia :	2 ditto.	
4 fractures of the fibula :	2 ditto.	2 deaths.
3 fractures of the arm :	1 recovered,	2 deaths.
5 fractures of the forearm :	5 ditto.	
2 fractures of the metacarp :	1 doing very well,	1 death.
27	15	11 1

M. Malgaigne had performed only one primary amputation, which he was almost ashamed to acknowledge, after the energetic reprobation of which it had been the object from M. Roux, an amputation of the elbow. It might be pleaded in extenuation that the patient had recovered. M. Malgaigne would acknowledge he did not understand M. Roux's motives for proscribing this operation.

Thus, out of 17 fractures of the thigh and leg treated without operation, 8 cures had been obtained. Dupuytren, out of 31, had obtained 13 recoveries. M. Malgaigne's results were, therefore, more satisfactory than those of M. Boucher, who considered that primary operations sacrificed the lives of two-thirds of the patients.

M. Gosselin, Dr. Malgaigne's colleague at Saint Louis, had also abstained from operations. The following were his results:—

3 fractures of the thigh :	1 gives hope, 2 deaths.
3 fractures of the leg :	1 uncertain, 2 deaths.
4 fractures of the tibio-tarsal joint :	1 doing well, 1 death, 2 secondary amput.
2 fractures of the shoulder :	2 ditto.
2 fractures of the arm :	2 ditto.
3 fractures of the elbow :	1 uncertain, 2 sec. amput., 2 deaths.
8 fractures of the forearm :	8 well.
25	16 cases of success.

The difference of the mortality amongst the insurgents and soldiers had been as follows:—

Out of 17 fractures of thigh and leg—

5 insurgents :	4 deaths, 1 recovery (fracture of the thigh).
12 soldiers :	4 deaths, 7 doing well, 1 amput. cured.

This considerable mortality amongst the insurgents depended, in some measure, of course, upon the moral depression consequent upon their defeat, but also upon the interrogations which those unfortunate men were submitted to, without the authorization of the surgeons to whose care they were confided.

These satisfactory results were due (said M. Malgaigne) to various causes, amongst which it was only fair to place the special treatment employed. He avoided, as much as possible, all scarifications and incisions, employed only the simplest dressings, and gave food to the patients as soon as any appetite was present. With regard to venesection, he scarcely ever employed it; being a pupil of Broussais, he formerly recommended the practice, but had been deterred from its use by the fatal effects he had witnessed. A document, which unfortunately had never been published, and which had been prepared by the orders of the administration of hospitals, was most peremptory in this respect. It was the statistical account of the mortality amongst the wounded admitted in 1814 into the hospitals of Paris. In these tables French, Prussian, Austrian, and Russian subjects had been entered, together with a statement of the mode of treatment. All except the Russians were submitted to a severe regimen. The mild cases amongst the latter received what was called a portion of food; others received the half portion, and this *half* allowance consisted of—

Bread,	-	-	-	-	-	-	1 lb.
Meat,	-	-	-	-	-	-	$\frac{1}{2}$ lb.
Vegetables,	-	-	-	-	-	-	$\frac{1}{4}$ lb.
Wine,	-	-	-	-	-	-	12 oz.
Brandy,	-	-	-	-	-	-	12 oz.

These figures might naturally astonish the meeting; but the tables of mortality would still further surprise the Academy. The mortality was—

For French soldiers,	-	-	-	-	1 out of 7
— Prussian —	-	-	-	-	1 — 9
— Austrian —	-	-	-	-	1 — 11
— Russian —	-	-	-	-	1 — 27

These were eloquent ciphers; they had been sufficient to convert M. Malgaigne, who, it was true, did not allow brandy to his patients, but a reasonable amount of wine.—*Monthly Ret.*, Sept. 1848, from *Dr. M. Carthy's Report in Med. Times*, Aug. 19.

34. *Case of Resection of the Scapula.* By WM. FERGUSSON, Prof. of Surg. &c. (Proceedings of Roy. Med. & Chir. Soc., June 13.)—W. H—, aged thirty-three, was admitted into King's College Hospital, on January 13th, 1847. He had suffered from disease of the right shoulder-joint for seven years, when the extremity was amputated at the articulation, at Fort Pitt Hospital, and a part of the glenoid cavity was at the same time removed. He recovered, but became the subject of abscess on the front of the chest, about twelve months afterwards. On admission into King's College Hospital, the whole shoulder was enlarged, and the soft tissues hypertrophied; a great many fistulous openings existed in the pectoral region, and over the clavicle, which discharged copiously. Having determined on the propriety of removing the scapula entire, the author proceeded to operate on the 6th of February, 1847. The patient was put under the influence of ether, and the clavicle was first exposed, and divided about two inches from its acromial extremity with a saw; another incision extended along the spine of the scapula, and a third in the course of the old cicatrix. Some further dissection, and a division of the attaching muscles, enabled the operator to complete the excision, the subclavian artery being the while compressed over the first rib. The axillary and other arteries were tied, and the wound closed with stitches. The patient's recovery was satisfactory and unattended by anything deserving particular notice. On May 5th, he was sent into the country, and a recent account reports him to be well and fat, though still occasionally troubled with small abscesses on the breast. After maceration, the bone exhibited a hypertrophied condition; the remaining portion of the glenoid cavity was carious, and its margin was surrounded by a mass of new ossific matter. The author concluded with some observations on the interest attaching to the case, from the rarity and formidable character of the operation required for the relief of the disease, and its successful issue.—*Lond. Med. Gaz.*, June 1848.

35. *Excision of the Elbow-Joint and greater part of the Ulna.* By PROF. FERGUSSON. Reported by H. SMITH, Esq.—William C—, aged sixteen, was admitted into King's College Hospital, July 21st, 1847, with disease of the right arm, presenting the following appearances. There is a large unhealthy sore on the ulnar side of limb, extending from the joint of the elbow four or five inches down the arm; and by means of the probe it can be ascertained that there is extensive disease of the ulna; the arm itself is in a semiflexed position, all power of moving the joint being lost. The boy is in a wretched state of health: he has been attending at one or two hospitals in London, and he was discharged only a few days back from one, being told that nothing could be done for him.

Aug. 14th.—Mr. Fergusson has examined this case from time to time. Having made up his mind to remove the diseased bone, the patient was brought into the theatre, and being placed under the influence of ether, the operation was commenced. An incision six inches in length was carried over the ulna. The tissues being well cleared away, and the whole of the bone found in a diseased condition to within two inches of the lower extremity, the cutting pliers were used at that point, and the section was made. The upper part of the bone and the elbow-joint were then examined, and the articulating surfaces of the latter being affected, were removed, together with three-fourths of the ulna. The edges of the wound, which were very extensive, were then brought together by sutures; cold rags were applied, and the limb was kept in the semiflexed position.

17th.—This day the dressings were removed from the wound, which appears

to be in a healthy condition. The patient has suffered considerable pain, but this has been relieved by the constant application of warm water.

24th.—The wound is looking very well, and the limb being in a good position for any future use of it, a bandage was ordered to be applied, and used daily.

From this time the case progressed favourably, but slowly. The patient being kept in the house for some weeks until the wound had healed considerably, and his health had somewhat bettered, he was discharged, to attend as an out-patient. The wound was some time in healing up, and his health, which had been much shattered, gradually improved. A most perfect and satisfactory cure took place, and I had an opportunity, a few weeks ago, of seeing the patient in good health, and having the most perfect use of his hand.—*Lancet*, Aug. 26, 1848.

36. *Case of Dislocated Head of the Radius successfully reduced two years and one month after the Accident.* By JAMES STARK, M. D. (*Edinburgh Med. and Surg. Journ.*, Jan. 1848.)—The subject of this case was a girl about nine years of age, in whom the dislocation was produced by a fall against a fender, the elbow of the right arm coming in contact with its edge. The case was treated by the family surgeon as a mere contusion.

As from the cases related by Flaubert, Marx, and Dupuytren, it appears that the chief danger in reducing old dislocations arose from the risk of rupturing the muscles, blood-vessels, or nerves, by employing violent efforts at reduction, it was determined in this case to extend the arm firmly, but gently, day by day, till the new adhesions of the head of the radius were so much lengthened, or the head so loosened from its new site, that, by the employment of not much additional force, the bone would at last be put into its proper place. The extension was effected by seizing the hand of the patient with the right hand, bending the elbow-joint so that the forearm formed a right angle with the arm, and applying the counter-extension by passing the left hand close above the elbow-joint, and thus fixing the humerus. The extension was then continued till slight uneasiness was complained of. This was repeated daily from the 12th of May till the 2d of June, 1847. By this time the head of the radius had become quite loosened, and could be pulled to the edge of the articular head of the humerus. On the 2d of June, therefore, Dr. S. made the extension and counter-extension himself, and when the head of the radius arrived at the edge of the articular surface of the humerus, allowed the ball of the thumb of the left hand to press against it; when bending the forearm on the arm, the bone quietly slipped into its place. The head of the radius was found to have a strong tendency to slip out of its place and return to its former situation in front of the elbow-joint, partly on account of the altered form of the condyle of the humerus, partly from the cavity of the joint being filled with an elastic fibrous deposit. The arm was, therefore, kept much bent, and the hand tied up across the chest, so that the tips of the fingers almost touched the opposite clavicle.

Slight tumefaction, increased heat, and redness, with uneasiness rather than distinct pain, followed. These were speedily relieved by an evaporating lotion, but no other treatment was required, and the child was allowed to take exercise as usual. After a few days, a bandage was applied round the joint, but gave such uneasiness that it was obliged to be removed. No application was therefore made to the joint itself. After the lapse of about a fortnight, slight motion was daily given to the elbow-joint, without, however, lowering the hand or extending the arm. In about three and a half weeks after the reduction, the forearm was lowered so as to form nearly a right angle with the arm, greater motion was daily allowed to the elbow-joint, and frictions were also employed to promote the absorption of the fibrinous deposit, which, from filling the joint, still prevented the close coaptation of the bones. By the 10th of July the motions of the elbow-joint were found on trial to be nearly as extensive as those of the sound arm. The forearm could be bent on the arm so as to allow of the hand being put to any part of the head; but when the arm was extended, the head of the radius threatened to rise and resume its abnormal situation. The arm was, therefore, so tied that it could not be extended further than a right angle.

By the 1st August, or two months after reduction, the head of the radius was found to have acquired such a degree of firmness in its proper sight, that all band-

ages were removed, and the arm was allowed to be free. From this day the hand and arm improved in strength, so that, by the middle of September, both the child and her parents acknowledged she had much more use of the hand than she had had from the day of the accident, two years and four months past.

37. *History of a Case of Dislocation of the Head of the Femur backwards; with some Observations on that Form of Dislocation.* By RICHARD QUAIN.—An opportunity having occurred to the author of making a dissection of the parts concerned in a recent case of dislocation of the femur, he availed himself of it, and has embodied his observations in this communication to the Society. The subject of the injury, a man aged 60, was killed by a fall from a ladder, the cause of death being extensive fracture through the base of the skull. Considerable deformity being observed in the right lower limb, the author was induced to make a careful examination of the extremity, with a view to detect the nature of the injury it had sustained. It was apparently, but not really, much shortened; it was also inverted, and separated from the sound limb. The trochanter major was altered in its relation to the iliac spine, and the depression behind it was wanting; the head of the femur could be felt towards the back of the pelvis. The limb could be flexed, but not rotated outwards. On removing the gluteus maximus, the head of the dislocated bone was exposed below the pyriform muscle, and immediately behind the acetabulum. The pelvis had sustained a fracture, but the fragments were not altered in their relation to each other. The obturator externus, quadratus femoris, and some deep fibres of the gluteus medius, were torn through. The inner and lower part of the capsular ligament was separated from the neck of the femur, and the round ligament was torn from the depression on its head. The great sciatic nerve was stretched but not injured, as were also the obturator internus and gemelli muscles. The brim of the acetabulum was slightly fractured. After giving the above details, the author remarked that there are points of contrast between the present and other cases which have been recorded of a similar accident; and proceeded to quote the history of the dissection in a few instances of the form of dislocation in question. The first was a case from Sir A. Cooper's "Treatise on Dislocations;" the second, one reported by Dr. Scott in the third volume of the "Dublin Hospital Reports;" and a third, described by M. Billard, in the third volume of the "Archives Générales de Médecine." He then proceeded to comment on these cases, directing attention particularly to the following points:—1st, the condition of the structures immediately interested in the dislocation, and especially the exact position of the femur; 2dly, the characteristic signs of the displacement; and 3dly, the restoration of the bone to its natural position. The practical inferences drawn by the author from the foregoing observations may be summed up as follows:—1st. In the ordinary form of dislocation backwards, the femur does not reach the sciatic notch. 2d. The head of the bone is lodged immediately behind the acetabulum, over the base of the ischiatic spine, and opposite to a small part of the sciatic foramina. 3d. The injury would be correctly named the dislocation of the head of the femur backwards. 4th. During the extension made to reduce this dislocation, the thigh is most advantageously directed across the pelvis, so that it shall form a right angle, or nearly a right angle, with the abdomen. At the same time the limb is to be in a state of abduction; the femur will thus be drawn away from the pelvis, forwards and outwards. The knee is to be bent, the extending force being fixed above the joint.—*Lond. Med. Gaz.*, July 16th.

38. *Dislocation of the Head of the Femur on the Dorsum Ilii, in a Child three and a half years old.* (*Prov. Med. and Surg. Journ.*, July 12, 1848.)—Mr. IMAGE communicated to the Suffolk Branch of the Prov. Med. and Surg. Ass., at its annual meeting in June, a case of dislocation of the head of the femur on the dorsum ilii, produced by injury, which is worthy of notice from the extreme rarity of such an accident at so early an age.

"William Colley, aged 3½ years, of Ixworth, Suffolk, was admitted into the Suffolk Hospital, May 6th, 1847, with dislocation of the head of the femur on the dorsum ilii. The accident had occurred twelve days prior to his admission.

"The accident appears to have been produced by his sister jumping upon his

shoulders, from a step above that on which her brother was standing. When I first saw him, the left great toe was resting on the instep of the opposite foot, and the knee crossing over the lower third of the right femur. The limb was an inch and three quarters shorter than the right. He was a remarkably fine healthy child. Soon after his admission reduction was attempted for a considerable time, but unsuccessfully, as we were not able to fix the knee-strap sufficiently tight to bear the long-continued extension.

"May 7th. Having obtained a proper sized knee-strap, and having nauseated our little patient with tartar emetic, and put him into a hot bath, we again applied the pulleys, and after ten minutes succeeded in reducing the dislocation. The bone passed into its natural situation without the slightest jerk or sound. The limb now assumed exactly the same appearance as the other, the shortening being entirely removed. The thighs were kept tied together for a week, and on the 18th of May he walked out perfectly well."

39. *Case of undescribed Congenital Malformation of the Shoulder-Joint, simulating Congenital Dislocation.* Dr. BELLINGHAM, on examining a patient, noticed that his right shoulder and arm presented a very different appearance from the left; the muscles, particularly the deltoid, being atrophied, and the bulk of the arm being one-half that of the opposite limb, in which the muscles were largely developed. He could not raise the arm to a right angle with the body, but all the underhand motions were well performed, and he stated that he could carry heavy bodies in the hand. On being questioned, he said this had been the condition of the arm as long as he could remember; he had never received an injury in the part until two or three years since, when the clavicle on that side was fractured.

On examination, the shoulder-joint presented somewhat the appearance of a congenital dislocation; the acromion process was very prominent, the deltoid muscle scarcely developed, and the arm about half the size of the opposite limb; in every motion of the joint the scapula moved with the humerus, as if ankylosis had taken place; the arm could not be brought to a right angle with the body; when raised nearly to this point, there was a sudden check to its further elevation. The head of the humerus did not form any prominence in the axilla, nor was there a vacant space between the acromion process and the head of the humerus, and the elbow did not project from the side.

On a post-mortem examination, the supra-spinatus, the infra-spinatus, and the subscapularis muscles were found to be atrophied and converted into fatty matter, similar to what is seen in cases of very old unreduced dislocation, where the muscles had not for many years been called into action. Scarcely any traces of the deltoid muscle existed; the biceps was wasted, as were likewise the other muscles of the arm, but they were not altered in texture. The capsular ligament of the shoulder-joint was very thick, consisting of several layers, which were separated from one another by cellular tissue. At the under surface of this ligament, and apparently forming a part of it, a round very strong ligament passed from the scapula to the humerus, which became extremely tense when the arm was raised from the side, and rendered it impracticable to bring the arm above a right angle with the body, even when the muscles connected with the joint were removed. The head of the humerus was in contact with the glenoid cavity, and remained in contact with it after the muscles were cut away, and after the capsular ligament had been opened above. The scapula, clavicle and humerus were small, resembling those of a delicate female, rather than of a labouring man. There was no appearance of the clavicle upon that side having ever been fractured.

Dr Bellingham says the condition of the shoulder-joint now described, which there is every reason to believe was congenital, must constitute a very rare form of malformation, as he had met with no account of a dissection where such a condition of the parts was observed; and the most recent work upon injuries and diseases in the vicinity of joints, by Mr. Smith, contains no case resembling it.

The original malformation here, was undoubtedly in the capsular ligament of the shoulder-joint, the inferior portion of which was condensed, shortened, and converted into a kind of round ligament, which so limited the motions of the arm that it could not be raised above a right angle with the body;—the muscles em-

ployed in raising the arm were never, therefore, called into action, and their tissue had degenerated; in some, as the supra-spinatus, the infra-spinatus, and the sub-scapularis, the muscular tissue was converted into a matter resembling fat; while the fibres of the deltoid seemed never to have been developed, so completely was its muscular tissue absent.

The scapula, clavicle, and humerus upon this side, which resembled rather those of a delicate female than of a robust man, were exhibited to the members of the society, and are now in the Museum of the Royal College of Surgeons.—*Dub. Med. Press*, July 5th, 1848.

40. *Foreign Bodies in the Knee-Joint*.—M. VELPEAU has lately delivered an extremely interesting clinical lecture on the above distressing and dangerous affection. So impressed is this distinguished surgeon with the hazardous nature of the curative means employed in such cases, that he quotes Benjamin Bell, “better amputate at once than attempt extraction, which is so often followed by death.” The case brought forward in this instance forms, however, an exception to the rule, for complete success crowned M. Velpeau’s efforts. The subject is a journeyman smith, twenty-four years of age, of strong make and good constitution; he had for some time experienced a little pain in the right knee, when one day, in rising from the kneeling posture, which he had assumed for the shoeing of a horse, he felt a sudden darting pain in the knee, and, in applying his hand to it, was for the first time made aware of the existence in that part of a foreign body of the size of a walnut. He had experienced no pain whatsoever immediately before, had by no means risen abruptly, never suffered from articular rheumatism, and had at the moment nothing the matter with him but blennorrhagia. Divers means were used before he was admitted at La Charité, when the part presented the following appearances: swelling, redness, and pain, with effusion in the joint; on the internal side of the inner condyle a movable foreign body is felt, of the figure and size of a horse-chestnut; it could be easily pushed under the ligamentum patellæ and brought out again; in the extension of the limb the foreign body lay by the inner and superior side of the internal condyle inflexion, it was hidden by the ligament of the patella. When the inflexion was brought down by appropriate means, the floating cartilage might be pressed and pushed without giving any pain. From this it is evident that the primary affection was the production of the foreign body, which had caused the subsequent inflexion by its irritating presence. As to the nature of the floating body, M. Velpeau mentions that he has seen two cases in which it consisted of fragments of detached cartilage, and thinks that, in general, they are mostly the result of resorption and induration after effusion *within* the synovial capsule, and not *without*, as Sir Astley Cooper and Bèclard have thought: although there *may* be a plastic effusion on the external surface of the synovial membrane, which then gives rise to a foreign body, which remains attached to it by a longer or shorter peduncle. It is not easy to determine the origin of the cartilage in this case, neither has the operation thrown any light upon this. None but direct surgical means could be thought of, and extraction was the only one which offered any chance, although a full third of the patients thus treated have perished. So great is the danger, that surgeons have tried divers means in order to avoid the inflexion of the synovial membrane: thus has M. Dufresne, a Paris surgeon, proposed to reach the capsule by a subcutaneous incision, make a small opening in the synovial sac, gradually press out the cartilage, and leave it in the cellular tissue. This proceeding offers, however, no security against arthritis. M. Goyran, of Aix, operates in the same manner, but leaving an interval of a week between the capsular incision and the final elimination of the foreign body through the skin: M. Velpeau has succeeded twice in this manner. Boyer used to avoid making the cutaneous incision parallel to the capsular: this, however, was but a slight modification. It is very probable that, in this case, the cartilage was pediculated and intra-capsular, so that the operation must be extremely hazardous, as the knife *must* penetrate within the synovial sac. No inflexion whatever remaining in the knee, the extraction was practised in the following manner. Through a puncture in the skin, the capsule was entered with a lancet-blade fixed on a long and narrow-stem, the leg being extended on the thigh; an assistant then pressed the foreign body, to allow the surgeon to cut

through the peduncle and push out the free cartilage, but all efforts failed. A hook was then introduced along the stem of the instrument first used, and the foreign body being then drawn outwards by the hook, renewed endeavours were made to cut the peduncle; but this manœuvre succeeded as little as the first. The surgeon then decided on crushing the cartilage, and he effected this with the strong lance which had been first introduced, the foreign body being secured by the hook. After much tearing in every direction, the two instruments were withdrawn, and the trituration seemed complete; many of the fragments followed the hook, and lodged in the surrounding cellular tissue, but the peduncle had remained within the articulation along with some fragments: it might, however, be confidently hoped that both the latter and the former would, after so minute a division, be eventually absorbed. The cutaneous orifice was carefully closed with court plaster, and a firm compression between the capsule and the cellular tissue containing the fragments was effected, in order to isolate the former from a part of the articulation which might become the focus of suppuration. A few rounds of bandage being applied, the patient was carried to his bed, and the leg slightly flexed by means of a pillow placed under the knee. We have given such a length to this analysis, that we can merely add that one month and five days sufficed for the complete absorption of the foreign body and the perfect recovery of all the motions of the limb. Not the most minute examination could detect the least trace of the once so annoying cartilage; and M. Velpeau adds that this is the first time that he has thus modified M. Goyran's method by bruising the foreign body both within and without the capsule.—*Lancet*, Aug. 26, 1848.

41. *Rapid Recovery after Fracture of the Tibia*.—DR. SCHWEICH relates the case of a peasant, æt. 40, whose tibia was transversely fractured at about its middle, producing obvious displacement. The case was treated by means of the starch bandage, and the reporter left off attending him on the sixth day. He was much surprised to hear afterwards that he had tried the experiment of walking in his room on the 12th day, and had gone to his employment on the 14th. On the 25th day he called upon the author, and exhibited a well-formed callus.—*Brit. and For. Med. Chirurg. Rev.*, July 1848, from *Casper's Wöchenschrift*, 1848, No. 7.

42. *Case of Obturator Hernia, with Symptoms of Intestinal Obstruction within the Abdomen, to relieve which the Abdomen was opened*. By JOHN HILTON, F. R. S.—Miss —, aged 36, in September, 1847, had some severe pain and local tenderness on pressure on the right side of the abdomen, above Poupart's ligament, with continued constipation and some vomiting. During several days these symptoms were relieved by the local application of leeches and fomentations, and the use of aperients and purgative injections. From that time she continued in her usual health until Jan. 20th, 1848, when she was suddenly seized with symptoms of strangulated hernia; but no hernia could be detected, although she was repeatedly examined in reference to that point. Various means were employed, without any permanent relief to the symptoms of strangulated intestine. These means were continued during eleven days, when in consultation with Dr. Fox and Mr. Blackmore, of old Street Road, in whose practice this case occurred, it was resolved to recommend the patient to submit to an operation, the whole importance of which was fully explained to her. On the twelfth day from the first symptoms of strangulated intestine, Mr. Hilton opened the abdomen by cutting in the median line below the umbilicus, and ascertained the existence of an obturator hernia, which had not been at all suspected to exist. The intestine was withdrawn from the obturator opening by laying hold of it within the abdomen; no external tumour could be at that time detected in the upper part of the thigh. The operation was performed (with the patient under the influence of chloroform) in the morning, and the patient died in the evening of the same day. The post-mortem examination gave evidence of extensive recent peritonitis. The portion of intestine which had been in the hernial sac was distinctly seen, and on examination was found to have been in a condition favourable to recovery. The hernial sac remained fixed in the thigh; the parts surrounding it were dissected; and a drawing is annexed to the record of the case, showing the position of the hernia.—*Lond. Med. Gaz.*, July 16th.

43. *Report of a Case in which Gastrotomy was performed for the relief of Obstruction of the Bowels.* By R. Druitt, Esq.—J. D.—, a delicate boy, aged eleven, had, at the end of February last, an attack of inflammation of the bowels, which yielded to the use of calomel, Dover's powder, and purgatives. On April 1st, the author was requested to see him for a similar attack, which resisted the treatment before adopted. Vomiting supervened, and the bowels were obstinately constipated. The belly was tense, but the chief pain and tenderness were referred to one spot—a little below and to the left of the umbilicus. The use of purgatives merely excited vomiting, and the rejected matter assumed a yellow, liquid character, and had a stercoraceous smell. The symptoms varied but little, the stomach rejecting almost everything but milk and soda-water until the 9th, when the patient appeared excessively exhausted. After this he rallied, but the bowels were unmoved; and, as every reasonable measure had been resorted to, without success, to procure their evacuation, as the tenderness continued fixed to the same spot, and as there was evidently a distended state of probably both the stomach and neighbouring portion of intestine, it was ultimately determined that an operation for relief of the supposed internal strangulation should be resorted to. On the 14th, the author accordingly opened the abdomen by an incision along the linea alba, below the umbilicus, and a distinct band was soon discovered, binding down the intestine. This was liberated; but almost simultaneously the bowel gave way at a point lower down, its contents escaping into the peritoneal cavity. This aperture was found and secured; but the patient survived only two hours and a half. On examining the abdomen after death, there were evident traces of former peritonitis, in the form of extensive adhesions. The whole of the large intestine, and a portion of the ileum, were pale, contracted, and empty. The remaining portion of the small intestine, up to the duodenum, was reddened, enormously distended, and filled with liquid feculent matter. The stomach was also greatly distended. The seat of stricture, where the band was divided, was marked and abrupt. The ulcerated opening was in the ileum, not far from the lower attachment of the band. The author considered that an earlier operation would have afforded a reasonable prospect of a successful issue.—*Ibid.*

44. *Operation for Strangulated Hernia on the Plan of Mr. Gay.*—In our last number (p. 218) we noticed an operation performed by Mr. Childs for strangulated hernia, by a plan proposed by Mr. Gay. In the *Lancet* (Aug. 26th), the following case is reported by Dr. Catherwood, in which he operated successfully by the same method.

Miss M—, aged twenty-nine, had been subject to femoral rupture on the right side, for twelve years, but had not worn a truss, for whenever a protrusion took place, she was able, without difficulty, to return it.

Aug. 12th.—After some exertion, the rupture descended and she was unable to return it. I saw her in the afternoon and found it irreducible by taxis, although aided by bleeding, the application of ice, and a purgative enema. Vomiting supervened, and continued with scarcely any intermission during the whole night; and the lower part of the abdomen, especially on the right side of the linea alba, became tense and painful.

13th.—A little before eight o'clock in the morning, I again visited my patient, and found the symptoms so extremely urgent, that I immediately determined on operating; and adopted the plan recommended by Mr. Gay.

Mr. Gay saw my patient, and with his kind assistance, Mr. Burchell being also present, I began the operation, after chloroform had been exhibited, by making an incision, about an inch in length, between the tumour and the spine of the pubis, obliquely from above downwards, and from without inwards, the highest point of the incision being over the inner part of the femoral ring. After completely dividing the superficial fascia, the tip of the finger was readily passed to the angle between Gimbernat's ligament, and the neck of the hernial tumour, and a section of the edge of the ligament made with a concealed bistoury. A few fibres were now found to hold the tumour, which were divided by bringing the edge of the bistoury directly forwards. By making a very gentle pressure on the sound skin, the rupture immediately returned. The whole operation occupied but a very short

space of time. Within ten minutes the bowels were moved, and their action continued at short intervals during the course of the night.

14th.—Slight pain in the right side of the chest; abdominal pain nearly gone. She wishes to get up. Ordered, half an ounce of castor-oil, to be taken directly, and when it has acted, twenty drops of laudanum every three hours, until the action of the bowels be restrained. Beef-tea.

15th.—Patient recovered; the slight wound healing fast.

Observations.—This mode of operating possesses such great advantages over the commonly-adopted method, that it only requires to be thoroughly known and understood, to receive the sanction of the profession.

1. The external incision is only just large enough to admit easily the fore finger.
2. Healthy structures are alone interfered with.
3. The wound heals by the first intention.
4. A truss may be worn three days after the operation.
5. The pain is inconsiderable, and the danger most materially lessened.

45. *Case of Hydatid Disease of the Liver cured by Operation.* By GEORGE O. REES, M. D.—The patient was a man aged thirty-one years; admitted into Gny's Hospital on the 13th of October, 1847. Examination of his abdomen detected a distinct tumour occupying the right hypochondriac and epigastric regions. Fluctuation could be felt in it. On the 4th of December the tumour was tapped by Mr. Hilton, with a trocar and canula not larger than an ordinary exploring needle, straps of plaster having previously been passed round the body, so as to fix the tumour in position, and to exert pressure upwards. Thirty-eight ounces of clear fluid were removed. The wound quickly closed. On the 7th of January, the tapping was repeated with the same instrument, and with the same precautions as before. On this occasion pus of a very offensive odour escaped, and only ten ounces were obtained, owing to the canula becoming obstructed. On the 9th of January the tumour was tapped a third time with a full-sized trocar and canula, an elastic gum-tube being passed through the canula. Twenty four ounces of fetid pus escaped, with membranous flakes, and partially destroyed hydatids. The opening was maintained, and fetid pus, with occasionally hydatids, continued to be discharged (the capacity of the sac at the same time diminishing) till the commencement of April. On the 11th of April the discharging orifice had closed, and no remains of the tumour could be found, unless it were a body about the size of a walnut, below the right lobe of the liver. The author comments upon the diagnosis of the disease, the propriety of the operation, the degree of danger attending it, and the precautions adopted to avert evil results, and concludes with some remarks on the nature of the fluid discharged from the sac.—*Lond. Med. Gaz.*, July 16th.

46. *A Plan of treating Ovarian Dropsy by the Ulcerative Opening of the Cyst, after its permanent adhesion to the Walls of the Abdomen.* By EDWARD J. TILT, M. D. (Proceedings of R. Med. and Chirurg. Soc., June 27.)—The author was led to attempt this mode of cure by observing the process of Nature in some spontaneous and radical cures of ovarian dropsy. His first object is, to establish solid adhesion between the peritoneal covering of the cyst and the peritoneal lining of the abdominal parietes. His second object is, to make the smallest possible opening into the cyst, so that it may not be suddenly emptied, but remain always full, and be only relieved *per stillicidium* of the overplus of liquid distending its cavity, while it gradually contracts. To attain both these objects, he adopts the plan which has often been successful in effecting the adhesion of hydatid cysts of the liver to the abdominal walls. It consists in the application of Vienna paste to the appropriate part of the abdomen. He relates one case in which a radical cure of an ovarian cyst was effected by this means.

A lady, who had always enjoyed good health, ceased menstruating at forty years of age. Soon afterwards, having been exposed to cold, she was seized with violent pain in the left iliac fossa, followed by shivering and high fever. When these symptoms were relieved, a tumour of the size of an orange was felt in the situation of the left ovary. This tumour gradually increased, and in a short space of time the patient had the appearance of being nine months gone with child.

Vienna paste was applied to the pit of the stomach; an eschar was produced, and fell off, and afterwards a small opening was formed by ulceration, through which an albuminous ropy fluid escaped. The abdomen was supported by moderate pressure. In a few weeks the discharge became purulent and offensive. Tepid water was then injected into the cyst daily for some months; the cyst gradually contracting, so that at length it would receive only an ounce of water. In about a year the patient was in effect well, although for several years a fistulous opening remained at the pit of the stomach. In the course of the case the cyst formed a communication with one of the intestines, and for several days the patient passed purulent stools, while, during that time, no pus escaped from the external wound. —*Lond. Med. Gaz.*, July 16th.

47. *Femoral Aneurism—Ligature of External Iliac Artery—Cure.* By ROBERT COCKS, M. D. (*Edin. Med. & Surg. Journ.* April, 1848.)—The patient was a labourer in a gas works, 46 years of age, of sober habits and enjoying good health. When seen by Dr. C., on the 31st of October, 1847, he stated that two months previously he first felt a pain in his right ham, but that he observed, a fortnight before, for the first time, a pulsating tumour underneath his right groin, about the size of a hen's egg. On examination, Dr. C. found a circumscribed pulsating tumour in the course of the femoral artery, immediately before it entered the tendon of the *triceps* muscle, about the size of a large orange, and which separated, to a considerable extent, the *sartorius* and *rectus* from their natural position. On the surface of the tumour were three protuberances, each being about the size of a sixpenny piece, very elastic to the touch, and through which the pulsation was peculiarly marked, so distinctly, indeed, as to convey a painful impression, that at each successive pulsation the sac would give way, and its contents suddenly burst forth. With the exception of these spots, the tumour, when compressed by the hand, conveyed to the fingers a sensation as if it were a *doughy* substance; and a dull pulsation was felt all over it. By compressing the artery immediately above the tumour, so as to cut off the supply of blood from it, the pulsation at once ceased, and the tumour became flaccid and shrunk in appearance; but the moment the pressure was removed, it speedily resumed its former shape. Handling the tumour even rather roughly, appeared to give the patient no pain or uneasiness. The skin was nowhere discoloured, neither was there any œdema of the leg.

The contents of the visceral cavities appeared to be in a healthy state; his pulse was calm and natural, and his appetite good.

The operation was performed on the 4th of November, by making a longitudinal incision through the integuments and superficial fascia, of about four inches, in a direction nearly parallel with that of Poupart's ligament, and about an inch above it. This brought to view the tendon of the external oblique, which Dr. C. divided in like manner; a few fibres of the internal oblique and transversalis were cautiously raised and separated, exposing the *fascia transversalis*. A director being introduced, these muscles were freely divided to the extent of the external incision. The artery being still at a great depth, it was necessary to employ flexible copper retractors to separate the edges of the wound. The fascia was then gently separated, the *peritoneum* raised, and the finger introduced down to the vessel; a little counter pressure being made with the finger, the aneurism needle was cautiously insinuated under the artery, the convexity of the instrument being turned towards the peritoneum. Slight pressure on the needle, with the vessel interposed, completely prevented all pulsation in the aneurism. The ligature being firmly tied, both ends of the silk were left hanging out of the wound. The artery, at the point where the ligature was applied, appeared to be perfectly healthy.

The edges of the wound were approximated, retained by three stitches, and light water dressing applied. Little blood was lost during the operation; the only vessel divided was a branch of the *circumflexa ilii*, which was immediately secured by ligature. The limb was then wrapped in flannel, and the patient placed in bed. He complained of no pain or uneasiness, only of a chilly sensation in the right limb.

Nothing very remarkable occurred in the progress of the case. On the 20th of December, on applying a slight degree of force to the ligature, which still remained firmly adherent in the wound, the silk broke under the skin, leaving the knot

deeply imbedded in the wound. At this period the aneurismal sac was reduced to half its former size.

March 1st, 1848. He appears quite well. No perceptible difference is apparent between the right limb and the left, and the sac has completely disappeared. On careful examination, a hard cord is alone distinguishable in the situation of the femoral artery.

48. *Aneurism at the Bend of the Arm after Venesection—Pressure tried without success—Ligature—Cure.*—Mr. ORR communicated to the Surgical Society of Ireland (Feb. 19th, 1848), an interesting case of circumscribed false aneurism after venesection, occurring in a healthy man 27 years of age, admitted into the city of Dublin Hospital Aug. 21st, 1847. The compression was so exerted as not to arrest completely the flow of blood through the vessel; the points of pressure were varied from the axilla to immediately above the tumour; the patient at first bore its application for about six hours at a time, but gradually became intolerant of it, so that it could not be persevered in for more than two hours, and that he was kept in bed and allowed an unstimulating but nutritive diet.

At the end of about four weeks the tumour had considerably increased in size, and there was no evidence of any coagulation having taken place. The man, too, was becoming exceedingly impatient, and anxious that something more decisive should be done for him. Unwilling to have recourse to the knife, Mr. O. determined to try if he could more easily bear compression with the hand to such a degree as altogether to arrest the circulation in the vessel. It was evident that this mode of compression could not be kept up sufficiently long to effect a cure by merely diminishing the force of the circulation. As he had said previously when this mode of pressure was used for a short time while the position of the clamps were being changed, that he thought he could bear it better than anything else, I had some hopes that it might be continued sufficiently long, at least, to make a step towards the cure which might be afterwards followed up. Two of the pupils, Messrs. Meyler and Perceval, having kindly offered to assist, the trial was commenced, but at the end of two hours, during which not a drop of blood had been permitted to enter the aneurism, the patient declared he would sooner submit to amputation of the limb, and refused to permit a continuance of the trial.

In consultation, it was now suggested that, prior to performing any operation, it would be well to try the effect of a bandage and compress applied with moderate tightness, and to give internally the acetate of lead; with considerable difficulty, Mr. O. persuaded the patient to submit to this treatment for a week; but at the end of this period, as it was evident that there was no diminution of, or coagulation in, the sac, Mr. O. agreed to the patient's earnest request to tie the artery.

The operation was performed on the 27th of September.

An incision, about two inches and a half in length, was made over the course of the brachial artery, its lower end terminating just above the aneurism. After dividing the fascia and some cellular tissue, a small vessel, scarcely the size of a crow-quill and unaccompanied by veins, was exposed. Round this a ligature was placed and tightened, but as the pulsation, though checked for an instant, immediately returned in the sac, it was again loosened. By examining with the finger in the wound, another vessel was felt pulsating to the inner side of this, and laid bare by a little further dissection. Some difficulty was found in applying the ligature, in consequence of its being almost entirely concealed by a large vein. When this was effected, pulsation ceased for a moment in the aneurism, but almost immediately returned, and the case being now perfectly clear, the first vessel was also secured, on which it disappeared. Before the wound was dressed, however, the pulse could be felt at the wrist, and was also faintly perceptible in the tumour, which had considerably diminished in size.

No bad symptom subsequently occurred. The aneurism gradually decreased in size, and became much firmer; it ceased to dilate, and seemed to be only thrown forwards by the stroke of the artery. The pulse at the wrist was as strong as in the other arm; the ligature on the small vessel separated on the tenth, and the other on the seventeenth day, by which time the wound was healed, except

at the point where the ligature was brought out; and the next day the patient went to the country.—*Dub. Med. Press, March, 1848.*

49. *An easy Means of rendering the Ulnar Artery accessible to the finger or even to the eye.* By M. MALGAIGNE.—“I have several times had occasion to place a ligature around the ulnar artery for lesions of this vessel; and when the cellular tissue is gorged with effused blood, and it is necessary to seek it at a considerable depth, I do not hesitate to term it a very difficult operation. Perhaps the means I am about to state will assist in removing the principal difficulty, which especially depends upon the depth of the artery.

“If the fingers and hand are turned forcibly backwards upon the dorsal aspect of the forearm, the relations of the ulnar artery become surprisingly changed. The deep-seated muscles upon which it lies are forcibly raised, and cause a sensible projection under the skin. The tendon of the flexor carpi ulnaris, on the contrary, retreats inwards and backwards; so that the artery, which, in the natural position of parts, is partly concealed by it, is now forced to a much more anterior plane, and lies four or five millimetres on the inner edge of the tendon. In many subjects it becomes more superficial than the radial, and it may be seen raising the skin at each pulsation.

“In traumatic lesions of the vessel, the same position brings the wounded extremity of the vessel towards the surface, and enables us to seize it; and in any case, when we wish to pass a ligature around the vessel, there will be no longer occasion to denude and draw away the tendon of the flexor.”—*Brit. and For. Med. Chir. Rev.*, Sept. 1847, from *Revue Medico-Chirurgicale*, tom. ii. p. 160.

50. *Treatment of Varicose Ulcers and Varicose Veins*, (*Dublin Medical Press*, June 28.)—Dr. HARGRAVE recommends for the palliative relief of varicose ulcers and varicose veins, the application of the vulcanized India-rubber, as a bandage, in the form of a ring or garter, which is constantly to be worn, and he relates two cases in which he employed it with advantage.

“The simplicity and facility of application of this garter,” he says, “can recommend its adoption in such cases. In these instances the great benefit derived from it was the support it gave to the veins, which, if overloaded on the distal side, it was merely necessary to stretch the garter, when the veins were instantly seen to empty themselves. For prolonged use, I think it will supersede the laced stocking and the roller, either of which, by the general compression of the limb, causes the wasting of the muscles and of the soft parts, as I have often witnessed in those individuals who have worn one or other of these bandages for a few years, and produces also a certain amount of debility. No such risk is incurred by this means of support, nor any danger to be apprehended by creasing or unequal pressure of the integuments causing fresh ulceration, if but ordinary attention is paid in wearing it.

“The patient is also saved from the inconvenience, which to some is of some amount, of the extreme heat of the leg caused by the laced stocking.

“I now use the elastic India-rubber web inch wide, into which is inserted a piece of the vulcanized kind, or it can be made solely of the last-named material. I would also suggest that it is better to make them into a ring garter than with a buckle and strap; the latter is too much under the control of the patient, who may become impatient of the pressure, and would consequently relax it; while if the ring garter is used, the only interference will be that of easing the pressure occasionally by stretching it.”

51. *Case of Fungus Hæmatodes of the Testis, where Castration was performed; in which the Patient survived the Operation nearly Seven Years, and on examination presented no trace of Malignant Disease.*—Dr. BELLINGHAM communicated to the Surgical Society of Ireland the following extremely remarkable case:—Wm. Cummins, aged 58, a labouring man, resident a few miles from Dublin, was admitted, under my care, into St. Vincent's Hospital, in January 1839, for an enlargement of the left testis of two months' standing. He has a healthy florid look, and he states that he has always enjoyed good health; his habits are temperate. He first noticed the enlargement of the testis about two months since; his attention was attracted to

it by its size; he never had pain in it, and never received an injury in the part. He says he never had venereal in any form, and never took mercury; he is married, and the father of a family.

On examination, the left testis was found to be enlarged to about the size of a hen's egg; the integuments are unaltered in colour; the tumour is heavy; the epididymis much indurated; the spermatic cord healthy; he has no pain in the part, which is little sensible to the touch, and but slightly painful after being handled.

He remained in the hospital until the beginning of May, when he left, the tumour not having increased in size.

In January, 1840, he was readmitted; the tumour had increased in size, and he complained of a sensation of pain and dragging in the cord, and up to the ring; the tumour is smooth on its surface; the integuments are perfectly sound; it is heavy, painful after being handled, but not otherwise; in front it gives the feel of fluctuation posteriorly; the epididymis is much indurated; the spermatic cord is healthy; the patient's general health is good.

February 11, 1840, the testis was removed, and in a few weeks the wound was healed. On a section being made of the tumour, it presented the usual pulpy appearance of encephaloid disease; the cut surface was pale; the centre softened, and dotted with dark spots like extravasated blood. The epididymis was nearly as hard as cartilage. The layers of the tunica vaginalis were adherent, except at a few points, and here a small quantity of limpid fluid was collected.

The patient soon afterwards left the hospital, and remained well, with the exception of occasional attacks of bronchitis, to which he had been previously subject, until the month of May, 1847, when he was readmitted, labouring under a recent acute attack of double bronchitis, supervening on chronic bronchitis with emphysema, under which he sank a few days subsequently. On a post-mortem examination, the lungs presented the usual appearances seen in subjects dying of bronchitis with emphysema; all the other organs were perfectly healthy. The cicatrix in the scrotum was almost entirely obliterated.

Dr. Bellingham said he wished to place this case on the record of the proceedings of the Surgical Society, because there are few well-authenticated examples of fungus hæmatodes of the testis, where the patient survived the operation long, or where the disease did not reappear in some other part. Indeed writers are almost all agreed that operations for fungus hæmatodes are among the least successful in their eventual results of any that are performed, and fungus hæmatodes of the testis forms no exception to the rule. In the most recent work upon the subject (that by Mr. Curling) he says—"I scarcely know an instance of castration having been performed for this disease in which the patient has survived for any lengthened period. Sir B. Brodie states that he has known but one instance in which there was no recurrence of the disease. The patient was a French courier, and had the disease in one testis, which was amputated. Three or four years after the operation, Sir B. Brodie learned that he was going on favourably." In the case before us, nearly seven years elapsed between the period of the operation and the death of the patient, which was the result of another disease; and on examination all the internal organs were found to be free from disease.

Dr. Bellingham said, it may perhaps be objected that the disease in this instance was probably not genuine encephaloid disease, or it would have reappeared in some other part. Upon this point he would merely observe, that Mr. Cusack, who was kind enough to assist him in the operation, considered it so well marked an example of the disease, that he had a drawing made of the recent parts, which he (Dr. Bellingham) was enabled to exhibit on that evening to the members of the society.—*Dub. Med. Press*, July 5, 1848.

52. *Scirrhus Lymphatic Gland*.—MR. BREE detailed to the Suffolk Branch of the Prov. Med. and Surg. Ass., at its meeting in June last, a case of "scirrhus deposit," affecting primarily and solely the lymphatic gland of the right axilla, in a lady, aged sixty. The tumour was seen by Sir B. Brodie and Mr. Aston Key, and removed by the latter gentleman.

The physical character of the tumour previous and subsequent to the operation, and its microscopical examination afterwards, left not the slightest doubt as to the nature of the affection.

Mr. Bree remarked upon the extreme rarity of this form of carcinoma, Scarpa having denied its occurrence, and only one case being recorded by Dr. Walsh, in his excellent work, which was quoted from a Dublin journal.—*Prov. Med. and Surg. Journ.*, July 12, 1848.

53. *New mode of treating Deafness arising from destruction of the Membrana Tympani.*—Mr. YEARSLEY mentions (*Lancet*, July 1) a simple means of remedying the loss of the membrana tympani with which he became accidentally acquainted through the instrumentality of a patient. This consists in inserting a small portion of cotton-wool moistened, into the meatus, and passing it with a probe to the site of the missing tympanum. He relates two very astonishing instances of the improvement in hearing thus accomplished. The remedy is a simple one, and its usefulness or fallacy will doubtless soon be amply ascertained.—*Prov. Med. and Surg. Journal*, Aug. 9, 1848.

OPHTHALMOLOGY.

54. *Symptomatic Prominence of the Eyeball.*—Mr. PILCHER related to the Medical Society of London the following cases:

While in attendance upon Mr. P——, in December, 1846, my attention was directed to Master P——'s left eye, which certainly was more prominent than the other, yet without approach to strabismus. He is a very delicate boy, aged thirteen years and a half, of small stature, very largely-developed head, pale and thin, appetite fastidious and rather large; bowels generally torpid, as usual in persons of this diathesis, where the nutrition is by no means proportioned to the food received. He had closely applied to his studies during the previous year or two, especially to drawing, and that a good deal by candlelight. I could not detect any diminution in the power of vision; the pupil acted, though somewhat sluggishly, as well as the opposite. He expressed himself quite well in every particular. In consequence of these negative symptoms, I was inclined to believe that the projection of the eye was congenital; his digestion was imperfect. He took mercurial aperients, with regulated diet, and the prominence subsided in about a week. On April 17th, 1847, he returned from school, complaining of pain in the left eye and forehead. He had been over-fatigued during the last month or more, by walking twice daily to and from school, and had been also overworked at his lessons. He took an aperient, and was much better on the next day. On the ensuing day he became seriously ill, and necessarily confined to his bed; he vomited so constantly as to reject all medicine, and, indeed, food. Cramps in the arms and legs, and to a less degree over the body generally, were most painful; the left eye projected much beyond the other. I saw him in consultation on Tuesday evening, and found—as far as my recollection will serve me—these conditions:—The surface of the body rather cold; the fingers and hands spasmodically flexed, the forearm less so; imperfect volition in the shoulders; the lower extremities affected in the same manner, but to a less extent; vomiting very constantly whenever food or medicine was taken, and that attended with painful cramps or spasms of the upper part of the abdominal muscles, and, probably, of the diaphragm; bowels had not been relieved for twenty-four hours or more; urine natural; pulse slow, full, and perhaps a little labouring, about 40; respiration corresponding; intellect quite correct and clear; the left eye considerably projecting beyond the orbit, and very noticeable in contrast with the other; the upper lid depressed; great intolerance of light; pain in the forehead and eye, and generally on that side of the head. It is difficult to say whether the globe of the left eye was not larger than the right, or whether that appearance was entirely dependent upon its prominence; the axis of the eye was correct; the transparent media were quite clear; no increased vascularity; he could detect not only light from dark, but large objects that intervened between the light and his eye, but could not distinguish what they were. The treatment consisted in allaying the irritability of the stomach by a counter-irritant over its region, effervescing salines in small quantity, and I think, hydrocyanic acid; afterwards mercurial purgatives

and blisters to the left temple. On Thursday, the second day after my first visit, the sickness was relieved; he had passed two or three dark evacuations, and he was a little improved in every particular; but the affection of the eye and head was nearly the same. I saw him every other day for about a fortnight, during which time he gradually improved, with occasional interruptions. The treatment essentially consisted of mercury, in the form of mercury and chalk, two, three, or four times a day; counter-irritation, by means of blisters to the affected side; aperients of rhubarb, castor-oil, &c., which were frequently required. In the progress of the case, the appetite, which at first was entirely lost, became so considerable that it was requisite to limit the quantity of the food. The first symptom that subsided was the irritable condition of the stomach and bowels, then the spasmodic affection of the limbs: the pain of the head improved, and gradually the eye became less prominent, less painful, and the function amended, but was not quite restored; as the other symptoms subsided, the pulse rose to its natural standard. The little patient was confined to his bed-room for six weeks, and to the house for two months, during which period he continued to take the mild form of mercury, which did not affect the gums, nor in any way inconvenience him. His eye slowly and gradually improved until he went into the country, which he did somewhat earlier than perhaps was quite prudent.

This young gentleman experienced a third attack in September last, upon which occasion I did not see him, as the affection soon passed off. The left eye then also projected, and the sight was deteriorated. He was at this time labouring under influenza and enlargement of the cervical glands, which required medicines and confinement to the house, and under this regimen the disorder of the eye subsided. It is interesting to notice that he had again returned to his studies, and to exposure, though not to the same extent as formerly. His general health is now quite good; a dimness of vision still exists in the left eye, unappreciable to himself upon ordinary occasions, but evident when experimenting with the right eye closed. It may be an important circumstance in deciding the pathology of this case, that an artist, in taking the portrait of this boy many weeks before his first illness, observed, and expressed in his painting, a peculiar stare or unnatural expression of the left eye, to which the attention of his parents and friends had not been previously directed.

I suppose it will be at once conceded, that the affections of the digestive, respiratory, and circulatory organs, were secondary to, and consequent upon, that of the brain; and whatever it may be imagined was the condition of the central nervous system, it will perhaps be as readily allowed that it was sympathetic of that of the eye or orbit; it therefore remains to be decided whether the affection originated in the globe of the eye, which, enlarging, projected forwards in the only yielding direction; or in the other tissues contained in the orbit, the tumefaction of or deposit in which protruded the eye.

Master F. C——, aged about four years, having had scarlet fever, which passed off mildly, was soon afterwards attacked with measles, which was unusually severe. This was followed by erysipelas on the face and head; two days after which he had severe pain in the left orbit, forehead, temple, and head generally; the left eye protruded greatly beyond the orbit; the lids were closed and stretched over the globe; the pain produced by examination was successive; general fever very high, with delirium. I saw him, with Mr. Chaldecott, on the 16th of April, 1845, the day following the accession of these symptoms. The conjunctiva was very florid and injected; the cornea dull, approaching to opacity, and resembling in appearance the dead eye when squeezed. He could most probably distinguish light from darkness; but we could not ascertain that he retained the function of sight, though the pupil acted sluggishly. Mercury and chalk, in small and frequently-repeated doses, was administered with aperients, as required, and evaporating lotions to the head, eye, &c. The bowels were soon affected by the medicine, and the mouth also in four days, when the prominence of the eye diminished, with a corresponding lessening of the other symptoms. The bowels were so far influenced as to produce some little alarm. The mercury was continued, in modified doses, from the 16th to the 25th of April, when he took some mild tonics; and eventually he completely recovered. A peculiar expression continued for some few weeks; but Mr. Chaldecott reports that three months after the attack the

patient was quite well in every respect, the function and natural appearance of the eye having been perfectly restored. He regarded the pathology of the case to be effusion of serum in the cellular tissue of the orbit behind the globe, which it pushed forwards; and that the necessary pressure produced semi-opacity, or approach to a nebulous appearance.—*Lond. Med. Gazette*, June, 1848.

55. *Ophthalmia Neonatorum*.—Mr. WILDE, in his extremely interesting "*Report on the Progress of Ophthalmic Surgery*," in the number of *The Dublin Quarterly Journal* for May last, remarks, "In this disease it is said that a new membrane is generated upon the surface of the conjunctiva, in the same manner that adventitious membranes are thrown out on the lining of the larynx, and upon that of the pharynx and isthmus faucium in diphtherite; and this, it is said, is what causes the rapid destruction of the cornea in these cases. The existence of this membrane is yet problematical. The conjunctiva is not prone to effuse lymph upon its external surface, but probably, under certain circumstances, it may do so. A case has lately been recorded by M. Bouyson, in which, during an attack of very severe purulent ophthalmia, a series of pseudo-membranes were formed upon the chemosed conjunctiva, which protruded between the lids; but in this instance the conjunctiva had been previously incised to relieve the distension, and we are not quite sure that the effused membrane was not poured out from the cut surface of the mucous membrane. The lining of the mouth occasionally pours out lymph in large quantities, so does the external surface of the membrana tympani and the distal extremity of the external auditory passage, and it is possible that the mucous membrane of the eye may do so likewise; but the matter requires further investigation. M. CHASSAIGNAC, the discoverer of this pseudo-membrane (so called) in purulent ophthalmia, recommends the continual irrigation of the eye, by what he terms *Ocular Douches*, in order to wash away the membrane as often as it is produced. To effect this the child is laid upon a table, while a small stream of water* is made to play on the eyes, for several minutes together, frequently during the day. This mode of treatment is not so novel as the French surgeon believes. In the Dublin Lying-in Hospital, many years ago, the nurses of certain wards became so famed for their good management of purulent ophthalmia, that whenever a severe case of this description occurred in the institution it was immediately transferred to their care. The management consisted in the continual removal of the discharge, and the frequent cleansing of the lids by means of a fine sponge and lukewarm water. The plan pursued was to lay the child across the knees, and to let the water pour out from the sponge over the eyes, the lids of which were held gently apart.† M. Chassaignac likewise informs us that these douches have been found highly efficacious in the removal of corneal opacities which had resisted the ordinary methods of treatment. The projection of a stream of water of different temperatures against the eye, both as a means of cleansing it from impure discharges, and as a most grateful method of relieving pain and irritation, has been employed in the Ophthalmic Clinique in Vienna since the days of Beer. We have lately established douches of this description in St. Mark's Hospital, and as we think they will be found highly efficacious in similar establishments elsewhere, and should be employed in every hospital where diseases of the eye are treated, we give the accompanying description. Moreover, by this means the possibility of conveying infectious matter from one patient to another, by means of sponges, &c., will be in a great measure avoided. A zinc or tin cistern, capable of holding from three to four gallons of water, is fastened to the wall of the ward or waiting-room. It is open at the top, to allow of its being filled, but closed by a well-adapted lid, in order to exclude all impurities. A funnel-shaped zinc tube, furnished with a fine strainer, is attached to its bottom. This ends in a pipe of quarter inch bore, which is also fastened against the wall, and bent into a curve. This is furnished with a stop-cock, and its extremity is so constructed as to permit of several descriptions of tubes and roses being attached to it. This curve is about three feet and a half

* *Revue Médico-Chirurgicale*, September, 1847.

† See Dr. Evory Kennedy's paper upon the Purulent Ophthalmia of Infants, read at the meeting of the British Association in Dublin, in 1835.

from the ground, so that a person of middle stature may be within reach of the jet of water when stooping his head over it. Below is a zinc basin furnished with an ordinary plug and waste-pipe, into which the water falls, and which may be also used as the usual washing basin of a ward. The cistern can be filled with either hot or cold water as the occasion requires, and in large establishments it may be connected with the ordinary forcing apparatus. The strength of the stream or jet can be regulated by the stop-cock."

56. *Scrofulous Ophthalmia*.—The irritability of the Schneiderian membrane in this disease, and the sneezing and other phenomena which it so frequently presents, are well known to every practical surgeon, yet, until lately, the actual condition of the mucous membrane lining the nose has not received much attention. M. MORAND has lately directed particular notice to this circumstance. He says: "In scrofulous ophthalmia the olfactory membrane participates with the conjunctiva in the inflammation that is set up; that it is especially about the turbinate bones, and in the anfractuosities of the nasal fossæ, that the inflammatory action resides; and that this shows itself in the form of an œdematous engorgement, precisely similar to what is observed in the eyelids. The more I study this disease, the more convinced am I that this is the case. A little attention suffices to show that the redness and tumefactions of the pituitary membrane almost always precede or accompany that of the conjunctiva. This can be more positively determined by means of the speculum auris. On examining attentively the interior of the nasal fossæ, one cannot fail to observe that the redness and swelling of the nostrils, and even of the upper part of the lip, that are so commonly observed in persons of a scrofulous habit, are merely an evidence of the inflammatory action going on in that membrane. It is by proceeding in this way that we can best appreciate the degree and extent of this inflammatory action, the extension of which to the palpebral and ocular mucous surfaces is often very rapid; sometimes, however, it remains for a long time stationary, without showing any disposition to extend." For the relief of this disease M. Morand applies the nitrate of silver, either in substance, solution, or ointment, extensively over the surface of the pituitary membrane. The value of this remedy has been extensively attested by Dr. Edwards of Bath, and, according to his experience, with the most decided benefit, even in cases of long standing, and where other remedies had failed.—*Wilde's Report on the Progress of Ophthalmic Surg.*, in *Dublin Quart. Journ.*, May, 1848.

57. *Anæsthesia in Ophthalmic Practice*. By W. R. WILDE, Surgeon to St. Mark's Hospital.—We have, on more than one occasion, both with reference to *ether* and *chloroform*, stated our opinion upon the value of this practice in ophthalmic surgery, and we have given both agents a sufficient trial. In painful or prolonged operations, the removal of an eyeball, the extirpation of tumours, plastic operations on the lids, ectropion and entropion, we have used them with the usual efficacy in such cases. We have not, however, employed chloroform (and ether is more objectionable) in operations on the globe, because it is unnecessary, might in some cases prove injurious, and in several it is inapplicable. In most operations on the globe, a certain amount of volition is necessary on the part of the patient; for instance, in strabismus, after the muscle has been fairly divided, and to all appearance cleanly dissected off the sclerotic, it is possible that some small fibre, particularly at the upper edge of its insertion, may still remain (as indeed we know it often does), and prevent the ultimate perfect success of the operation. Now to assure himself upon this subject, the operator should, as soon as he thinks the muscle has been fairly divided, and all the immediate cause of squinting removed, direct the patient to turn the eye inwards, in order to judge of the result of the operation. If the ability of squinting remains, something further must be done, either by searching for some undivided fibre of the muscle, or applying a ligature, &c., as we directed some years ago. But how are we to judge of this if the patient is unconscious? We do not think the operations for extraction, artificial pupil, reclinatio, or breaking up of a lens, are at all so painful as to require the employment of an agent to render the subject of them insensible. In extraction we should certainly fear to use it; we generally make the upper section, and the

cornea is usually turned upwards during the use of chloroform; moreover, in this case it is also necessary that the patient should retain such consciousness as will enable him to turn the eye in the different directions required. Suppose, however, we complete the operation with success during the state of insensibility, and that a slight convulsion, a spasm, or a nervous excitability, seizes the patient upon awaking from the state of unconsciousness, prolapsus of the iris, loss of the vitreous humour, and perhaps complete collapse of the eye, may take place in an instant during this struggle, or the patient may, inadvertently, to use popular phraseology, rub his eye out. There may be, however, cases in which a state of insensibility may be beneficial during the performance of such delicate operations.

Dr. Mackenzie recommends the employment of ether (and, we presume, of chloroform on the same principle), in the treatment of various forms of ophthalmia, particularly where there is much photophobia. In the cases where these means were employed, the immediate relief to the distressing intolerance of light was very manifest; but it does not appear to have produced any material alteration in the progress of the disease.* Dr. Smith of Cheltenham has also written on the same subject;† and says that he has employed this means largely to enable him to examine and manipulate on the eyes of young children affected with strumous ulcerations, &c. Dr. Smith very justly remarks, that the state of insensibility is much more easily produced in young children than in adults. We have not, however, experienced such difficulty in the examination of ophthalmic cases, or the application of remedies, as to require the use of the means recommended by this writer.—*Ibid.*

58. *Corneitis*.—We were somewhat surprised when we read an article a couple of years ago in the *Edinburgh Medical and Surgical Journal*, in which the inflammatory diseases of the cornea were described by the author as if they were unknown to the profession; and our attention is again directed to the subject by a lengthened review of DESMARRES' book, which has recently appeared in Dr. Ranking's Abstract, in which the writer states that the French oculist's description of punctiform corneitis is so novel that it has been given in a condensed form in the extracts published in that work. Desmarres enumerates a superficial and deep-seated form of this disease, but it is unnecessary to enter at any length into his descriptions. The disease consists in inflammation and consequent thickening and opacity of the membrane of aqueous humour lining the back of the cornea, and extending to the membrane of Descemet, in which the inner surface of the cornea presents a speckled or dotted opacity, as if sprinkled over with a fine bluish-white powder, and which is most easily recognized by examining the cornea in profile, by which means we assure ourselves that the laminated, external elastic, and conjunctival layers of the cornea are not affected. This disease more frequently spreads to the substance of the cornea than to the iris. It is a form of inflammation well known to those who treat diseases of the eye upon a large scale, and has been frequently described by English authors. Mr. Tyrrell has described it under the name of aquo-capsulitis; and to his description, as it happens to be that which is now nearest to our hand, we would refer the reader of the work to which we have just alluded.—*Ibid.*

59. *Ulcers of the Cornea*.—In penetrating ulcers of the centre of the cornea, with prolapsus of the iris, we are told by M. DESMARRES that we should not despair of the reduction of the iris unless gangrene of that part has set in. Now what gangrene of a portion of protruded iris may be, we confess we are ignorant. While the term hernia is not inaptly applied to this peculiar state of the parts, the surgeon must not suppose that all the changes which take place in a portion of strangulated intestine occur in the iris. When a portion of the iris has protruded through the cornea, either from a wound or ulceration, and become there adherent, the protruding portion of it is not got rid of by gangrene, and it frequently requires to be removed by excision after days and weeks of irritation. For prolapsed iris Desmarres recommends the patient to be kept in a recumbent position, with the

* Medical Gazette, June, 1847.

† Idem, October 15, 1847.

head low, and iced infusion of belladonna and hyoscyamus to be applied with light compresses to the eye, and a drop of the same liquid distilled between the eyelids every five minutes. We strongly object to this opening of the eyelids every five minutes, as we conceive nothing more likely to increase the protrusion than this very proceeding. We must here again refer to our observations upon the use of atropine, published in the fourth number of this Journal for 1846. We still believe that the best thing which can be done in penetrating ulcers of the centre of the cornea is to touch the rupture with a weak solution of nitrate of silver applied with a fine camel-hair pencil (but if the iris has protruded, it is better to omit this); then to drop into the eye a strong aqueous solution of atropine; to close the lids carefully with a strip of isinglass plaster extending from the forehead to the cheek; to apply the extract of belladonna plentifully in the usual manner all round the external parts; to lessen congestion and inflammation by local depletion, such as cupping or leeching, &c., and to relieve whatever other urgent symptom may present; to confine the patient to bed or the recumbent posture; to enjoin extreme rest, and not to meddle with the eye for forty-eight hours at least. There is a gentleman of our acquaintance who suffered from violent ophthalmia many years ago. His left cornea is quite irregular upon its external surface, and is apparently thinned from previous ulceration. He has had several attacks of sclerotic inflammation, with slight superficial ulceration of the cornea, in both eyes. Upon each occasion the left cornea gave way during a fit of sneezing, coughing, or some similar sudden exertion. The aperture was not like that formed by a penetrating ulcer, but was a rent or tear upwards of a line in length, extending across the transverse diameter of the cornea. On two of the occasions the iris protruded, and once a portion of it had prolapsed for several hours before I saw it: yet by the treatment above described, he recovered perfectly, with a slight brown mark left by the pigment of the iris upon the back of the cornea.

The transparent ulcer of the cornea has been long known and described; in some instances, however, we are unable to detect it when we examine the cornea in front, and only become aware of its existence by observing it in profile, or making the patient roll the eye about. There is, however, a symptom attending this form of ulcer with which we have been long acquainted, and which has not, that we are aware of, been heretofore described; it is the dark shadow thrown upon the surface of the iris by this ulcer, be it ever so transparent or so small, particularly when the patient stands opposite the light. At first view, this shadow, which is generally a dark circular spot through which the natural colour and striæ of the iris can be seen, appears like an ordinary congenital mark, but from this it can be distinguished by turning the head or eye from side to side, when it will be seen to shift its place on the surface of the membrane.—*Ibid.*

60. *Cure of Cataract by Suction.*—Notwithstanding the established opinions with regard to the most approved methods for removing or displacing the lens, and the recorded experience of the most scientific and practical ophthalmic surgeons upon the subject, we yearly read of new methods of operating, as well as other means, in the shape of medicinal agents, extolled for the removal of cataracts. When we find practitioners subjecting patients with established cataracts to a course of treatment both local and general, we are greatly inclined—to use no harsher term—to question their experience, and when we find men proposing new methods of operating, such as cutting out a cataract through the sclerotic, and advising depression or breaking up indiscriminately, in preference to extraction through the cornea, we are very much inclined to doubt their capability of performing that dexterous operation. M. BLANCHET has lately promulgated a new method of operating upon soft cataracts, which he denominates the operation of suction (*par aspiration*). The pupil having been dilated with belladonna, he punctures the cornea with a large cataract needle toward its circumference, in order that the opacity which follows may not occur in the field of vision. Through this opening he introduces a small tube with a flageolet-like mouth, attached to an Anell's syringe, with which he pierces the capsule of the lens, and if the cataract is soft, he pumps it out through this tube by working the piston of the syringe; but if, on the contrary, the lens is hard, or the capsule dense and opaque, he then has recourse to

depression!*

Such is the statement which has been vaunted in all the foreign journals as a discovery in ophthalmic surgery, but which must raise a smile on the face of every well-educated or experienced practitioner. In the first place, any thickening or opacity of the capsule should be discovered before an operation is commenced; and although the actual amount of softening—whether the lens is absolutely fluid, or is of its natural consistence as in a young healthy person, or as soft as ordinary starch made for washing—cannot always be determined upon before the introduction of a needle, still it can in most cases be decided with tolerable accuracy beforehand. If the lens be fluid, to attempt this suction is a most unjustifiable, as well as most unnecessary procedure; for the simple introduction of a needle through the cornea, and the laceration of the capsule, will allow the fluid to become diffused with the aqueous humour, in which case it will sometimes be absorbed in the space of a few hours. Every operator of experience well knows, that, even in those cases of fluid cataract, it is necessary to lacerate both the anterior and posterior capsules freely. If this is not done they will, though not previously opaque, become so very shortly; and while the substance of the lens is absorbed, both capsules will adhere, and become remarkably opaque, often remaining in such cases like a piece of egg-shell, held behind the pupil by a very thin semi-transparent membrane. And as these will not absorb, and can with great difficulty be depressed, it is frequently necessary to remove them through an incision of the cornea. Now the very wound made by M. Blanchet's suction pump is just the thing to produce this opacity; moreover, there must be a greater violence and injury done to the eye by this complicated process, than even by the roughest attempts at breaking up, whether through the cornea or sclerotic. In a case of congenital cataract in a young woman aged 18, upon whom we operated last year, and of which an account will be shortly published, this peculiar phenomenon occurred. Upon drawing the cutting edge of the needle across the anterior capsule, its fluid contents immediately burst out, and mixed with the aqueous humour, rendering the latter the colour of skimmed milk, and completely obscuring the iris. Having placed a bandage upon the right eye, we then proceeded to operate upon the left, when the same phenomenon occurred. In the space of about four or five minutes we removed the bandage from the eye first operated upon, when lo! the entire opacity had disappeared, except a few specks which remained on the torn capsule, and nothing was to be seen in the anterior chamber but a few grains of a white powdery substance at the junction of the iris and cornea beneath; and then upon looking at the other eye, the same clearness was found to have taken place there also, and imperfect vision (for the patient had never seen before) was found to be established. Now we can only account for this rapid removal of the milky state of the aqueous humour, by supposing that the heavier particles which formed it subsided, and, falling through the dilated pupil (for the patient was in the recumbent position), had deposited behind the iris, as a mixture of flour and water will do, if allowed to remain undisturbed; or that some chemical action had occurred between the salts of the aqueous humour and the opaque particles of the cataract.—*Ibid.*

MIDWIFERY.

61. *Dropsy in Pregnancy.*—The Nos. *Archives Générales de Médecine* for Feb. and March 1848, contain an elaborate article on this subject, by Drs. DEVILLIER and REGNAULD. They consider a deficiency of albumen in the blood during pregnancy to be the chief predisposing cause of dropsical effusion. They state, as the result of twenty-five analyses of the blood, that, instead of the normal proportion of 70 parts of albumen in 1000 of the blood, there existed but 68.60 parts during the first seven months of gestation, and only 66.4 parts in the last two months: thus, that there is a difference of 4 parts in 1000 between the blood of an unimpregnated and of a pregnant woman, without any loss of albumen by the urine. The experimenters

* *Revue Médicale*, for August, 1847; and *Journal des Connaissances Médico-Chirurgicales*, p. 109.

therefore concur in the opinions of MM. Becquerel and Rodier, and in the general proposition of M. Andral, that a deficiency of albumen is the only constant change in the blood necessarily associated with dropsy. The following principles are laid down:—1. That the proportion of albumen is notably lessened during pregnancy; 2, that the decrease which this material undergoes is gradual; 3, that the minimum exists during the last months of gestation.

The cause apparently most active in producing the dropsy is the impediment to the circulation resulting from the pressure of the enlarged uterus; and hence effusion first shows itself in the ankles and legs. That such pressure is not, however, the sole cause of œdema, is shown by the fact, that a direct relation between the size of the uterus and the amount of effusion is frequently unobserved. As proof of accidental circumstances, such as prolonged standing or sitting, or continued pressure on the abdomen, as impeding the circulation and of causing œdema, may be derived from the relative frequency of dropsical effusion in persons of easy and luxurious habits, as compared with the same individuals obliged to labour hard; the former are incomparably the more liable, even under identical conditions of the uterus. It follows, therefore, that the dropsy is due to other causes than those acting merely mechanically, and interfering with the return of blood; although the influence of the latter is shown by the variations the dropsy will undergo by changes of position of the body, and of the form and inclination of the uterus. The effusion makes its appearance, in nearly one half of the cases, between the seventh and the end of the ninth month of pregnancy; but it often shows itself from the fourth to the sixth month; and we are sometimes surprised to see its existence as early as the third month. In these latter cases it has, however, been observed, that the vessels have been greatly developed, and more particularly the veins, and that the evident difficulty in the circulation produced, at this period, the appearance of varicose swellings and serous infiltration. The œdema may pursue an acute or a chronic march; developing itself in one or two weeks, when gestation is far advanced, or gradually manifesting itself during the last three or four months; a difference depending on general and local conditions of the organism and the state of health. It has been said that the disappearance of the dropsy frequently coincided with the development of puerperal disease, and that puerperal fever was the result of a metastasis of the dropsy. But M. Devillier comes to the conclusion that the dropsy may pursue its course, whether retrograde or progressive, notwithstanding the manifestation of puerperal disease; and that puerperal maladies do not, either in their production or in their effects, present anything which can explain the transport of effusion into serous or visceral cavities. Thus, it is impossible to attribute, with M. Vasseux, to the metastasis of œdema, those grave accidents such as cerebral compression or pulmonary œdema, which so often end in the death of parturient women. In the way of treatment, rest in the horizontal posture, the avoidance of fatigue and constipation, with diuretics, are recommended in the slighter cases. In more severe forms of dropsy, and where plethora exists, bleeding; the employment of baths, vapour and hot, and of frictions; and if there be chlorosis, ferruginous tonics are suitable.

62. *On Phlebitis of the Brain and Meninges in Puerperal Women.* By Dr. F. M. DUCREST. (*Archives Générales*, Nov. 1847.)—According to the author, this affection in puerperal women is of rare occurrence, only five instances of it having occurred among 259 cases in which the head was examined after death. In one of these instances, the affection was not accompanied by any other cerebral disease; in the others, it occurred in combination with cerebral or meningeal inflammation.

The first case was a woman, æt. 19, presenting the appearance and physical signs of phthisis, who was delivered of a male infant at the eighth month, and afterwards became affected with frequent pulse, and a peculiar tremulous motion of the eyelids, lips and tongue. At first, there was no other symptom; but on the seventh day after delivery, there was an increase of the affection, with delirium, headache, and some convulsive movements of the limbs. On the ninth day the pulse and respiration were accelerated, jaws locked, tongue dry, articulation imperfect, but intelligence apparently unaffected. There was great feebleness of all the limbs, and nearly complete paralysis on the left side. In a few hours the

pulse fell to sixty, the respiration became slow and laboured; soon after she died. On dissection, the meninges were perfectly healthy; the cerebral hemispheres also healthy; but on section of the right side of the pons varolii, and the cerebral and cerebellar peduncles of the same side, the vessels in the interior of these parts were found distended to the size of a large pin by firm, dark clots, which, when extricated, appeared as dark brown cylinders of above a centimetre (nearly half an inch) in length. Around these, the cerebral substance was of natural colour and consistence. The lungs were extensively tuberculated, and contained numerous caverns. On the right side of the uterus was found a quantity of pus, surrounded by a slate-coloured induration of the substance of the organ, two millimetres (one line) in thickness.

The second case was that of a woman, *æt.* 25, who was delivered naturally, but soon after was seized with pains of the hypogastrium and limbs. These were followed by shiverings, fetid diarrhœa, and colic pains. The milk was suppressed, and leech-bites on the abdomen suppurated. On the ninth day, the pains being mitigated, she had severe cough, with crepitant rale at the posterior and lateral parts of the right lung. From the fourteenth to the seventeenth day, the right buttock swelled, and became the seat of lancinating pain; a large quantity of pus, with fetid gases and sloughs of cellular tissue, were evacuated by incision. In the meantime there had been watchfulness and delirium, with gradually increasing loss of intelligence, and moderate cephalalgia. She died on the twenty-seventh day. The pulse varied between 108 and 140, and the respiration between 28 and 48. On dissection, there was considerable subarachnoid effusion; the veins of the pia mater, on the convexity of the right hemisphere, were filled with firm, friable adherent clots, of a whitish colour, extending in some places into the cortical substance, and being darker in colour there and in the anfractuositities. The cortical substance was somewhat softened, and of a reddish colour; white cerebral substance not altered. The lungs contained some tubercles, and the lower lobe of the right lung was the seat of lobular pneumonia; several of the vessels were filled with partially-softened clots. The venous sinuses and lymphatics of the uterus were filled with pus; the broad ligaments were also infiltrated with pus. The cellular tissue between the sacrum and the left great trochanter was gangrenous, and full of pus.

The third case presented successively hypogastric pain and tenderness, with numbness and painful swelling of all the extremities, beginning with the right arm, in which she had been bled. The cerebral symptoms and progress of the case were very similar to the last case, with the additional symptoms of vomiting before death, which happened on the seventeenth day from delivery. On examination, the veins of the right arm were swelled, and filled with pus; the left lateral sinus of the dura mater contained a light-coloured clot, and the veins of the posterior and inferior parts of the left cerebral hemisphere entering into this sinus were distended with dark blood firmly coagulated. There was extensive softening of the posterior part of the left hemisphere, which contained in its vessels numerous small clots. The vessels of the uterus contained pus, as in the last instance.

The fourth case commenced two days after delivery, with intense headache, convulsions, and transient stupor. On her removal to the hospital, the headache continued, with slow, troubled utterance, tenderness of the abdomen, and fever. She was bled, and the blood presented no buffy coat. An hour afterwards she had a convulsion, in all respects like an epileptic attack, with coma, lasting for a quarter of an hour, and up to the morning of the next day, she had twelve nearly similar convulsions. The abdominal pain continued, and she had a shivering. The fourth day after delivery there were immobility, insensibility, and a contraction of the right limbs, with perpetual agitation of the left, afterwards plaintive cries, coma, stertor, resolution of the right limbs, continued agitation of the left; pulse irregular, 140. Death occurred next morning. On examination, there were clots in the sinuses of the dura mater, and ecchymosis on the surface of the left hemisphere; the vessels of the pia mater in the neighbourhood of this ecchymosis, contained reddish clots; the pia mater, both externally and in the ventricles, infiltrated with pus. The lungs contained miliary tubercles. The cavity of the

pelvis, and various parts of the peritoneal cavity, contained pus; the uterine tissue was healthy; some clots of blood were in the venous sinuses.

The fifth case occurred in a subject affected with extensive pulmonary disease, who was seized with headache, and most of the symptoms mentioned in the first three cases, while yet undelivered, though at the full term of pregnancy. The morbid changes were in great part similar to those previously described; but the amount of softening of the cerebral substance was greater than in any of the others, and the number of veins occupied by the firm coagula smaller; so that this case seems more important, in reference to the peculiarities of the disease, than any of the preceding.—*Ranking's Abstract*, vol. vii.

63. *Kiester as a Test of Pregnancy*.—Dr. GOLDING has published an elaborate paper, in which he seeks to establish the just value of this sign. He commences by noticing in turn the several indications usually relied upon, as auscultation, state of the breasts, suppression of the menses; and he proceeds to the consideration of kiester in a series of sections, embracing the several questions of interest connected with its formation.

The presence of the sound of the fetal heart is, of course, the most unequivocal sign of pregnancy; but this is only available after the fourth month. The placental souffle he shows to be less trustworthy. Of the state of the breasts, he observes that no indication can be more equivocal. His conclusions on this point are as follows:—

1st. These conditions are equivocal after first pregnancies, seeing that the areola has undergone changes in colour, is increased in size, and has its follicles enlarged; these states remain permanent, though if the mammæ be observed during subsequent pregnancies, these characters may be better marked; it is only comparison, therefore, that will avail for practical elucidation.

2d. If the changes induced by utero-gestation are permanent, diseases of the uterus, by affecting the breasts sympathetically, may induce congestion and other changes in them, similar if not identical with those produced by pregnancy.

3d. In some rare instances, the changes described by Dr. Montgomery are absent even in first pregnancies; the areola remaining unchanged, and the mammæ flabby, till the commencement of lactation.

4th. In persons of fair complexion, the areola may be increased in extent, and have its follicles hypertrophied, without material change of hue.

5th. In those of dark complexion, the areola is naturally of a darker colour, and has its follicles better developed than in fair persons.

6th. During functional derangements of the uterus, the breasts have been noticed to undergo changes not readily distinguishable from those existing during gestation.

In drawing practical deductions from the suppression of the menses, Dr. Golding takes the following circumstances into account:

1st. Whether or no the cause of suppressed catamenia during utero-gestation be due to impregnation; or to other causes, in which, however, certain of the phenomena also attending pregnancy co-exist.

2d. That in some females, the menses are not suppressed during pregnancy or during lactations. The menstruations occurring under such circumstances, whether uterine or vaginal, and whether dependent upon normal or abnormal causes, is attended with the same physiological effects, as in ordinary menstruation, both during its occurrence and accidental suppression.

3d. Any functional derangement of the uterus or other organ reacting upon that viscus may so affect it as to cause suppression of the menses.

4th. Sometimes the menses, though apparently, are not suppressed, being secreted, but not evacuated. The retention may cause vomiting, enlargement of the abdomen, sympathetic affections of the mammæ and stomach, with other effects also concomitants of the gravid uterus.

5th. That however strong a presumptive evidence of pregnancy cessation of the menses may afford, it can never be certain evidence, unless corroborated by auscultation, or the indications afforded by the urine.

After thus discussing the usual signs of pregnancy, and showing the inconclu-

siveness of each under certain circumstances, the author next proceeds to the main object of his communication, the value of kiestein as a test.

The chief value he shows to consist in its being available during the whole period of gestation; in its existence alike in first and subsequent pregnancies; its being uninfluenced by the age, temperament, or habits of the female; its being found in pregnancy alone, and disappearing during lactation. When this coexists with amenorrhœa, Dr. Golding looks upon it as the only conclusive evidence of pregnancy before the fifth month.

In his investigation of the cause of kiestein in the urine, the author examines it under two aspects; 1st, as a secretion of the mammary glands; which are eliminated from the kidneys, not as yet being required for the nutrition of the fœtus; 2d, in its identity with milk. He then inquires under what circumstances its presence is most conclusive of pregnancy; what is the reason of its inconclusiveness, and whether kiestein is ever absent in pregnancy, and if so, whether it is really absent or only obscured by other matters?

The pellicle is determined by him to be most conclusive of the existence of pregnancy; when the maternal and fœtal systems are in a healthy condition respectively, it is then rarely absent. He recommends that, in searching for it, the urine examined should be that voided some hours after a meal. Sediments of lithates render the appearance more or less obscure, and therefore the most favourable conditions for finding the pellicle are the healthy state of the mother and fœtus, a non-sedimentary state of urine, and its alkaline reaction.

The reasons of the inconclusiveness of the appearance of the pellicle as a test of pregnancy are thus summed up by the author.

The kiestein, viewed as a secretion from the mammary glands eliminated by the kidneys, is influenced, as other secretions, by those conditions of the system which derange assimilation generally. Such agencies may diminish or entirely suppress the secretion of kiestein; when diminished, it forms a scanty scum on the surface of the urine, or may be entirely absent as long as the general derangement lasts. A plethoric state of the system also, in which the red lithates abound, influences the secretion of kiestein. The pellicle may be absent while the lithates exist, or be so scanty as not to form a uniform film. The yellow lithates do not interfere with its formation to the same extent.

On the question whether kiestein is ever absent throughout the utero-gestation, the author comes to the conclusion that it is occasionally absent, but only temporarily. He does not think that it is ever absent throughout the whole period of pregnancy. The general conclusions derived from his observations are as follows:

1st. Coetaneous with, or shortly subsequent to conception, the breasts assume a secreting action; the product of which, eliminated by the kidneys, forms kiestein.

2d. If this action of the mamma be disturbed, it is the result of disease, and may be removed by appropriate treatment.

3d. Kiestein, though not apparent, may still not be absent, but may exist in such small quantities as not to be appreciable.

4th. The essential characters of the pellicle are its iridescence, fatty nature, and cheesy odour. It also prevents the urine becoming putrid for some time.

5th. As the secretion of kiestein is a vital phenomenon, resulting from conception, it is often available before other signs of pregnancy.—*Ranking's Report on Midwifery, &c.*, in *Abstract*, vol. vii. from *British Record of Obst. Med.*, No. 1, 3, 5, 7.

64. *Colour of the Vagina in Pregnancy*.—DR. ALBERT states that of all the signs of pregnancy hitherto known, that derivable from the observation of the dark red colour of the vagina is the best, seen as it is by the aid of a speculum at so early a period of pregnancy, and proceeding progressively with the development of the uterus. He has tested its utility in about 30 cases, and has besides examined, with the same success, a great number of animals at various periods of gestation.—*Brit. and For. Med-Chirurg. Review*, July, 1848, from *Zeitschrift für Gebertskunde*, vol. xxiii. p. 449.

65. *Observations on the Influence of the Death of the Fœtus in relation to its retention*

in, or expulsion from, the Uterus.—Prof. SIMPSON, at a meeting of the Edinburgh Obstetrical Society, Feb. 9th, 1848, stated that “the general law which regulated the occurrence of labour in relation to the death of the fœtus, was well known to be this—1. That usually, in from one to three weeks after the fœtus died, uterine contractions supervened, and effected its expulsion. But to this very general law there were various exceptions. For, 2. If the embryo died in early embryonic life, and the fœtal appendages continued to live and vegetate, expulsion might not supervene for months. He showed a case of hydatiginous ovum, where the embryo was not larger than an embryo of the sixth week, but the placenta, or rather the chorion, was the seat of hydatiginous hypertrophy and degeneration; and the mother (a patient of Mr. Girwood’s, of Falkirk) calculated that she had passed the usual term of utero-gestation, not having menstruated for eleven months previously to the expulsion of this diseased ovum. 3. When the fœtus dies from the third month onwards (in consequence either of disease in its own organization, in its umbilical cord, or in its placenta), and a second twin living fœtus exists at the same time in utero, and this second fœtus continues to grow and keep up a correspondence of development between the organ and its contents, the dead and undeveloped twin may be retained up to the full term of pregnancy, and be then born along with the other living and full-sized child. 4. When the dead fœtus is thus retained, it is preserved free from the decomposition usually following death by all access of air to it being prevented. Sometimes it retains its usually rounded appearance and form if it continues to be surrounded by a sufficient quantity of liquor amnii; but in other cases where this protecting medium of liquor amnii is defective, the fœtus becomes gradually more and more squeezed between two forces,—viz. the parietes of the uterus on one side of it, and the other living twin or its membranes on the opposite side; and at last, when born, it is found compressed and flattened in form. Two such flattened fœtuses are in the University Museum; and many such cases are on record. 5. The birth of such undeveloped dead twins had sometimes given rise to most groundless and erroneous ideas of the existence of superfœtation. 6. Occasionally when one of twins died early in pregnancy, it was after a time expelled (when it happened to be situated near or over the os uteri); afterwards the uterus closed, and pregnancy went on to the full time with the remaining living child. He mentioned a case of a lady aborting of a fœtus about the third month, going on in pregnancy to the full time, and then being delivered of twins; having originally conceived of triplets. 7. This last circumstance evidently led to the practical deduction—that when a dead fœtus in its envelopes was expelled during the currency of pregnancy, and the uterus notwithstanding still remained large and apparently distended, its further contents should not be in any way interfered with; but rest and other means employed to avert the excitement of any additional uterine contraction, under the hope that a living twin might still be retained, and be carried onwards to the full term of utero-gestation.—*Monthly Journ. Med. Sci.*, May, 1848.

66. *Epidemic Abortion.*—Dr. SCHWEICH observes that a great number of abortions occurred at one time in his practice very near to each other, the women not having been heretofore liable to the accident, nor yet exposed to any exciting cause of its production. He is disposed to refer them to atmospheric causes, such as are capable of inducing epidemics. The winter had been warm and wet, and the spring dry, thus offering a confirmation of the aphorism of Hippocrates, “*At si hiems austrina, et valde pluvia, et placida fuerit, ver autem plus justo siccum et aquilonium, mulieres quidem, quibus partus ad ver imminet, ex quâvis causâ abortiunt.*” Witte, too, states that, under the same circumstances, numerous abortions occurred at Jena in 1686.—*Ibid.*, from *Casper’s Wöchenschrift*, No. 7.

67. *Excessive Itching occurring during successive Pregnancies and producing repeated Abortions.*—M. MASLIEURAT LAGEMARD relates, in the *Gazette Médicale*, a very remarkable case of this character. The subject of it was a female of small stature, and of a nervous temperament, having a fair and beautiful skin, without any appearance of eruption. She became pregnant for the first time at the age of twenty-one, and everything went on regularly until the sixth month, at which period a smart itching came in the skin over the whole body. This by degrees became

more severe, and towards the eighth month it became insupportable, particularly in the palms of the hands and over the abdomen, obliging her to scratch herself furiously, and finally this brought on the expulsion of a dead child. Throughout all this the skin remained fair, transparent, and without the least appearance of any eruption; immediately the child was expelled, the itching ceased, as if by enchantment. Some time after this she again became pregnant, and again, about the sixth month, the itchiness of the skin began, and by degrees acquired an extreme intensity, occasioning the expulsion of a dead child in the middle of the eighth month. She was scarcely delivered when the itchiness ceased. In the third pregnancy nothing particular occurred for eight months and a half, when the itchiness began, but had not arrived at its usual degree of intensity at the ninth month, when her accouchement took place favourably. The fourth pregnancy resembled the first, and she brought forth a dead child at seven and a half months. The fifth pregnancy resembled the third, and she again was delivered of a healthy child. The sixth, seventh, and eighth, did not differ much from the two first in their character or consequences. In all these pregnancies the itchiness had occupied the whole surface of the body long before it invaded the palms of the hands; and it was only after the palms became affected that it acquired its greatest intensity. In the two instances where she went to her full time, the palms had remained exempt from the itchiness.—*Dub. Med. Press*, June 28, 1848.

68. *Condition of the Internal Face of the Uterus after Parturition.*—DR. COLIN, in a memoir read to the French Academy of Med. (Aug. 1848) stated, that his numerous researches had led him to conclude in contradiction to the greater number of modern accoucheurs—1. That it is not true that after parturition the muscular textures of the inner surface of the womb are denuded. 2. That a membranous and vascular layer remains even in cases of premature delivery. 3. That layer does not differ from the uterine surface of the decidua. 4. That the vascular remnant not only is not altogether destroyed by suppuration, but becomes the seat of the healing process, by which the uterine mucous membrane is reconstructed; an event which takes place between the twentieth and thirtieth day after parturition, and which is completed only after the termination of the second month following delivery.—*Med. Times*, Sept. 9th, 1848.

69. *Fracture of the Cranium before Delivery in a Fetus at the full time.* By M. BLOT.—A woman, æt. twenty-seven, who had been in labour for a short time,—having the os uteri somewhat dilated, and the membranes still entire,—fell from a second story, and fractured the right thigh. When carried into bed and examined, the child's head was found low down in the pelvis, and the bones crepitated as if broken in several parts. The child was delivered by the forceps; it was still-born. There was a great effusion of blood below the scalp; the parietal bones were broken into several parts. The dura mater and meninges were unhurt.—*Monthly Retros.*, Sept. 1848, from *Archives Générales de Méd.*, June 1848.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

70. *Crystals of Daturine from the Urine of a Man poisoned by Stramonium.*—The following remarkable case is related by ROBERT ALLAN, Staff Surgeon, 2d class, as occurring in the Mauritius. An Indian labourer, named Hitoo, was condemned by the Court of Assizes to ten years' hard labour in chains. He worked very unwillingly for about a month, and was brought into the Infirmary, on the 10th of February, 1846, in a state of insensibility, with stertorous breathing, dry, black tongue, injected conjunctiva and dilated pupils, ranging from 100 to 120. He was said to have eaten stramonium, which grows where he was sent to work that morning, six hours and a half previously.

The stomach-pump was applied, which brought up many entire seeds, and fragments of seeds, of the datura stramonium, but the action of the heart soon became more feeble, and notwithstanding the administration of stimulants, he continued to sink, and died an hour after admission, being about seven and a

half hours after he was supposed to have taken the poison. The heart was felt beating several seconds after respiration had ceased.

The body was examined nineteen hours after death; at which time, there were evident marks of commencing putrefaction (Fahrenheit's thermometer being 88°). *Head.* Great turgescence of the integuments, as well as of the dura mater, tunica arachnoides and pia mater; brain firm and highly injected; the choroid plexus turgid, and the ventricles contained a little bloody serum; there was a small plate of bone deposited in the falx, near the crista-galli. *Chest.* Old, ribbon-like adhesions between the pleura of the left lung, and that lining the cavity of the chest on the anterior part, the substance of both lungs very vascular, in many parts; heart flaccid. *Abdomen.* Liver, spleen, pancreas, bladder and kidneys normal; the stomach contained about four ounces of ingesta, composed of rice, eighty-nine seeds of the datura stramonium, besides many fragments, pieces of manioc and tripe; there was a patch of extravasated blood, the size of a shilling, in the mucous coat of the larger curvature of that viscus, and a smaller patch of extravasation near the pyloric orifice; the whole mucous coat of the stomach was slightly congested, many entire seeds as well as fragments of seeds, of the stramonium, were also found throughout the entire length of the small intestines. About six ounces of urine were collected from Hitoo's bladder at the post-mortem examination, which I submitted to Ossean Henry's process for the detection of daturine (*Journal de Pharmacie*, vol. 21, May, 1835). Several clear crystals were obtained, some being pentahedral, while others were surrounded with a quantity of oily matter, which obscured their shape. Some of these crystals were dissolved in distilled water, and the solution dropped into the eye of a man with lenticular cataract. In half an hour, the pupil was visibly dilated and became very much so, in an hour afterwards. Diluted sulphuric acid was added to some of the product of Ossian Henry's process, and in a few days, many acicular crystals of sulphate of daturine were observed.—*Lancet*, Sept. 18th, 1847, p. 298.

T. R. B.

71. *Detection of Human Hair by the Microscope.*—At the last meeting of the Microscopical Society of London, Mr. JOHN QUEKETT, the microscopic demonstrator to the Royal College of Surgeons, read a very interesting paper on the importance of the microscope in the determination of minute structures of a doubtful nature. The author stated that his object in bringing this communication before the society, was to point out how minute portions of skin, which had been exposed to the air for centuries, could be recognized as human. There existed in this country, certain traditions, that persons who had committed sacrilege were flayed, and their skins nailed to the doors of the churches they had robbed, as a terror to the sacrilegists, and three portions of such skin had been forwarded to the author for examination, by Albert Way, the Secretary of the Archæological Society. The first was taken from one of the doors of Worcester cathedral, where now only portions remain underneath the ornamental clamps and hinges. The second specimen was taken from the church door of Hadstock in Essex, where it had been protected for many centuries, by an iron grating; this portion of skin was said to have been that of a Danish pirate, and is supposed to be nearly 900 years old. The third specimen was taken from the church door of Copford, also in Essex. On all the specimens, Mr. Quekett succeeded in finding two or three hairs, which the microscope clearly proved to be human. Thus this valuable instrument is able to confirm a tradition, and prove the former prevalence of a practice which has been doubted by many archæologists.—*London Medical Gazette*, June 9, 1848.

T. R. B.

72. *Noxious Gases in Houses.*—"The noxious products of combustion are carbonic acid and sulphurous acid, with probably a portion of ammonia" (from cyanogen), and unconsumed sulphureted and carbureted hydrogen, with naphtha vapour. It is just as important to carry out of a room the products of the combustion of coal gas, as of coal itself. Faraday's ingenious invention for this purpose is adopted in the new House of Lords, and is now coming into general use. A large portion of the library of the Athenæum Club was destroyed by the acid vapour evolved by the combustion of gas.—*Ibid.*, July 2d, 1847.

T. R. B.

73. *Protracted Gestation.*—In the case of *Catterall v. Catterall*, decided last week in the Consistory Court, in which the husband proceeded against the wife for a divorce on the ground of adultery, the main proof was that a child had been born *twelve* months after the husband had left his wife in New South Wales, for the purpose of proceeding to this country. Dr. Lushington, without entering into the question of protracted gestation, pronounced for the divorce.—*Ibid.*, July 23d, 1847.

T. R. B.

74. *Effect of Poisons on Animal Heat.*—M. DEMARQUAY has proved by a series of experiments on animals, that the heat of the body is diminished by the action of some poisons, and increased by that of others. The poisonous agents which cause a *diminution* of temperature, are the vapour of ether (by inhalation), the cyanide of potassium, corrosive sublimate, arsenic, tartar emetic, muriate of morphia and ammonia. These different substances were injected into the stomach, and the observations then made. The poisons which caused an *increase* of temperature were digitalis, belladonna, croton oil and strychnia. One poison, tobacco, appeared to have no effect whatever on animal heat.—*Ibid.*, July 30th, 1847.

T. R. B.

75. *Dangerous Effects produced by the Bleaching of Lace.*—In the process of manufacture, Brussels lace is liable to become soiled. If it were washed, its value would be reduced; hence the so-called bleaching of this lace is effected by impregnating the fibre with carbonate of lead. M. BLANCHET has recently communicated to the Academy of Sciences some cases in which he had observed that the workmen engaged in this manufacture, suffered from an impairment of the senses of vision and hearing. The disease presented all the characters of saturnine paralysis. He visited the manufactory, and ascertained that the lace, covered with the finely-powdered carbonate of lead, was well beaten between sheets of paper. The workmen thus breathed an atmosphere constantly impregnated with the poison. The cause of the symptoms was at once explained.

M. Chevallier had previously called the attention of the French government to the subject. He observed that the workmen were liable to suffer from colica pictonum, and suggested that the disease might also appear as a just retribution in those females who were in the habit of wearing lace so whitened, in contact with the skin.—*Ibid.*, Dec. 24th, 1847.

T. R. B.

76. *Caustic Potash, an antidote to the Poison of Cantharides*—Dr. MULLOCK, of Dublin, states that in three cases of strangury, caused by blistering with cantharides, he found the solution of caustic potash a perfect remedy. Two of the cases were head affections, where opium was inadmissible. Thirty drops, given in half a wine-glass of water every hour, gave relief before the third dose was exhibited. "What led me to the use of this preparation was its known effects in relieving the stings of wasps or bees, when applied to the skin. I considered that it might also relieve the acrid principle of the cantharides. Indeed from its effects, it would probably be a remedy for an overdose of that medicine, if given in proper time. In looking over the various works on irritative poisons, I find no antidote to the poison of cantharides, and mention this now, that further trial may be made of its effects in giving relief."—*Dublin Quart. Journ. of Med. Sciences*, August, 1848.

T. R. B.

77. *Post-Mortem Digestion of the Stomach.*—It is affirmed that one and an essential object of the vital principle, so called, is to give to the animal body a certain resistance against the operation of destructive chemical action. But much of this does not appear to be well-founded. In the case of the stomach, for example, it is known that during life, it resists the solvent powers of the gastric juice; but, as we learned first from Hunter, after death, if it happens that the organ contains food, the left end is frequently found dissolved. The most obvious explanation of this phenomenon would be, that some vital power defends the stomach during life, against the chemical solvent. But when carefully investigated, it is found that the solution takes place so rapidly as to affect the stomach, whilst it is still so far alive, that its muscular coat would respond to the galvanic stimulus; and,

moreover, that even living animals, earthworms, and leeches, introduced into the stomach, enclosed within perforated spheres, so that they were guarded from muscular compression, are dissolved by the gastric juice. These considerations point, then, to another explanation, and in place of elucidating that one among the many marvels of animal existence, the defence of an organized tissue against an agent expressly provided in the economy to act upon such substances, by any particular vital property, we should rather seek for the reason in chemical action resisting chemical action; or, in other words, it may be assumed that whatever degree of protection is required, is furnished by the defensive mucus of the organ. This protection is only necessary where there is food in the stomach, for at other times, the elements of the gastric juice are enclosed within the different orders of epithelium cells.—From *Mr. Grainger's Hunterian Oration, London Medical Gazette*, June 30, 1848.

78. *Poisoning by the Seeds of the Jatropha Curcas (Physic Nut of the West Indies).* By H. LETHEBY, M. B., Lecturer on Chemistry at the London Hospital.—On the afternoon of June 28th, James Cole, aged 38, presented himself for medical relief at the London Hospital. He stated that his occupation was that of a labourer at the London Docks; that in the morning, while at work there, he met with a broken bag, containing some seeds,—of which he produced a sample (they were the seeds of the *jatropha*): that in consequence of being told by two sailors who were passing, that the seeds were wholesome, he removed the husks from five of them and ate the kernels; but that he had no sooner done so, than another sailor whom he met, assured him that he was eating a rank poison: this he soon found was the case; for, after the lapse of from ten minutes to a quarter of an hour, he began, he said, to experience a burning sensation in his mouth and throat, and the abdomen felt sore and distended. In the course of a few minutes after this, he was seized with violent sickness, and during the subsequent hour, vomited five times and was very actively purged. The burning sensation in the fauces, and the pain in the abdomen still continued: he also felt hot and feverish. Towards the termination of the first hour and a-half, a profuse perspiration broke out upon the whole surface of the body, and then he became so exceedingly weak as hardly to be able to walk about. During the next half hour, the debility had greatly increased; he felt extremely giddy, became delirious, and was ultimately quite insensible. He remained in this state nearly twenty minutes, but in another half hour, had so far recovered as to be able to walk to the London Hospital, where he presented himself after an interval of about four hours after having taken the poison. At this period he was very weak, and complained of a sensation of heat and dryness of the mouth and throat, of numbness in the tongue and of pain in the abdominal region. His countenance was pale and somewhat anxious; the pupils were natural; the hands rather cold, the pulse 140, and weak. By means of an opiate and a mild cordial, he was soon restored, and enabled to return to his home.

Dr. Letheby states, and it is this that gives interest to the above case, that the physic nut is frequently imported into England, and it is believed that it is used for the manufacture of what is now and then met with at drug sales, under the name of English croton oil.

He also points out the similarity of action from this, with that produced by the seeds of the castor oil plant, and of the croton tiglium.

“Mr. Bennet says that four of the *jatropha* seeds will act on a man as a powerful cathartic, but it is evident from the case here mentioned, that danger might be incurred by the administration of such a dose; in fact, Dr. Christison states that he has known violent vomiting and purging occasioned by a few grains of the cake left after the expression of the fixed oil from the bruised seeds. It appears from this that the poisonous principle of the *jatropha*, like that of the croton and ricinus, exists in the solid and non-oilous parts of the seed. This view is confirmed by another statement made by Dr. Christison, that from twelve to fifteen drops of the oil expressed from the physic nut, produced exactly the same effects as an ounce of castor oil. Now I have found that three kernels will only yield one drop of oil; it would therefore take from thirty-six to forty-five seeds to produce the dose mentioned by Dr. Christison; and it is scarcely necessary to say that

even thirty-six of the seeds would be quite sufficient to occasion the death of the individual.—*London Medical Gazette*, July 21, 1848. T. R. B.

79. *Death from the Bite of a Man*.—A few weeks ago, when the 4th Royal Irish Dragoon Guards were stationed at Nottingham barracks, two of the privates quarrelled, and one bit the other on the finger. The wound festered, and at length the man's whole body became affected; the bones, denuded of flesh, protruding through the skin. The sufferer lingered until Monday, when he was relieved by death. A despatch has been sent to Manchester (where the regiment is now stationed) for witnesses, and with orders for the man, who so savagely attacked the deceased, to be taken in custody, preparatory to an inquest being held upon the body. The case has excited great interest in a "medical point of view."—*Atlas*, August 19, 1848. T. R. B.

ANÆSTHETIC AGENTS.

80. *Anæsthetic Agents*.—The journals continue to teem with accounts of operations performed on patients rendered insensible to pain by the inhalation of chloroform. Nothing new of importance has, however, been elicited in relation to the physiological action of this agent, or to its therapeutic applications, though considerable additional evidence has been furnished in support of the views previously developed. The principal novelty which has been brought forward is a new mode of applying anæsthetic agents, by which *local anæsthesia* is produced, the sensorium not being affected, consciousness being retained, and parts not submitted to the action of the agent being unaffected. Many facts have also come to light illustrative of the toxical action of chloroform, and showing most conclusively that the cautions we have so earnestly urged upon our readers in regard to the use of this powerful agent, are well worthy of attention; and that our fears of ill effects from the extreme recklessness which has prevailed in its use, were not purely imaginary. That a greater number of examples of the injurious effects of chloroform have not been recorded, we can only explain by the circumstance that while so many were loudly boasting of their success in its use, others were ashamed to admit that they were less successful, and were disposed to ascribe the unpleasant effects they witnessed to their inexperience in relation to the proper mode of administering it. In this way, also, can we alone explain the discrepancies which have sometimes existed between the reports we have received from those who have witnessed operations and the published accounts of them.

In the following articles we have endeavored to embrace all the facts of importance in relation to anæsthetic agents, which have been brought to light since the publication of our last number.

81. *On the Practical Value of Anæsthetic Agents in Surgical Operations*.—Mr. HUMPHREY, in an interesting paper in the *Prov. Med. and Surg. Journ.* (Aug. 9th, 1848), observes, "that the practical value of anæsthetic agents in surgical operations, can be decided by observation alone, for we must be unwilling to admit speculation upon a discovery which had taken us so much by surprise, and exceeded our highest expectation of it. Surely, by no previous discovery, except perhaps, that inestimable one of vaccination, has so much pain been saved at so little cost. That we should be able to remove limbs and perform other grave operations without the infliction of pain, was a triumph too great for our belief. Still less could we imagine that an agent capable of producing such an effect would be unattended by deleterious or even fatal results in the indiscriminate use which was too likely to be made of it. Though I commenced the use of ether very early after its discovery was announced in this country, I must say I did so with much apprehension, and with great care. It was a source of no little anxiety to me, and I used to watch the weekly periodicals in the fear that they would soon teem with the records of fatal cases. Even at the present time, after the administration of ether and chloroform in a great number of cases during the last year

and a half, I cannot forget that I am wielding a powerful and very dangerous weapon, which requires the greatest care and attention in its use.

"I have witnessed the administration of ether and chloroform in some hundred cases, nearly all the operations of importance in our hospital having been performed upon patients subject to the influence of one or other of these agents during the last year and a half. The ether was used from Christmas, 1846, to October, 1847. Two patients, young women, one of whom suffered amputation of the toe, the other of the thigh, were excitable, hysterical, or delirious, and at times faint, during the remainder of the day. Two other women to whom ether was exhibited for slight operations, were said not to have recovered their memory and the full use of their mental faculties for several days after. One lad died with peculiar symptoms of oppression of the sensorium, preceded by delirium, three days after amputation of the arm on account of accident. Ether was administered; its effect was quick and complete and soon passed off, so that he slept well and the delirium was not observed till the following morning; we cannot with certainty attribute the fatal result in this case to the ether. With these exceptions I saw no ill consequences from the inhalation of ether beyond, occasionally, headache, sickness, and giddiness, lasting for a few hours.

"Since its introduction, chloroform has entirely superseded ether in our practice; we have been in the daily habit of using it during the last nine months, and I am not aware that its administration has been productive of any ill consequence in a single case. It is usually given on a small sponge fixed in a mouth-piece to prevent excoriation of the lips. The mouth-piece is not closely applied at first, so that some air is admitted in the early inspiration. A drachm of the fluid is poured upon the sponge, and additional doses of half a drachm are given as occasion requires. The best time for commencing the operation is when the muscular system is relaxed and the head falls back. The administrator should be careful to remove the inhaler directly any snoring is observed, and indeed he will do well to stop short of that point. The only formidable symptoms which I have witnessed from the administration of chloroform have been those of fainting. On one or two occasions these were rather alarming. Splashing the face freely with cold water was found to be the most effectual means of inducing reaction. I cannot tell what conditions of the system decidedly contraindicate the use of chloroform, but I should be unwilling to administer it to persons in whom fainting was likely to be attended with serious consequences,—such as old people, or persons with feeble or diseased heart, intermitting pulse, or disease of brain.

"I have observed chloroform and ether to act exceedingly well on delicate and enfeebled persons, those very cases in which we have most to apprehend from the pain and shock of an operation; and the knowledge of this fact has induced me to recommend amputation in some cases where I should have been unwilling to submit the patient to the unmitigated pain of such a procedure.

"Of the influence of chloroform in preventing the sufferings of the patient, during an operation, there can be no doubt, and if it do no more, it is a wondrous boon; but the more important question of its influence upon the ultimate recovery of the patient can be decided only by the carefully collected results of extensive experience. I can venture only to give my own impressions, which have gradually grown, from the observation of many patients, and which are decidedly in favour of the agent. Though quite prepared for occasional fatal accidents, during its administration, I believe that the average success of operations will be increased by its cautious and discriminate use. The shock to the system (a very important item in an operation), is so closely connected with the pain felt during the time, and is so greatly lessened by the absence of pain under the influence of chloroform, that in several instances, and those cases in which its effects were most to be dreaded, I have been unable to trace any of its usual consequences. There has been certainly, on the whole, less prostration followed by feverish reaction, after operations under ether and chloroform, than we used to witness before the introduction of these agents.

"There seems, moreover, to be a connection between the pain felt during an operation, and that which is experienced in the wound afterwards; for you cannot have failed to observe the comparative freedom from pain which patients enjoy for some time after operations which have been performed under the influence of

ether and chloroform; they often converse on other subjects, as though there were nothing the matter with them, and when placed in bed they are at ease, and, perhaps, fall asleep.

"Beyond the benefits which result from the lessening of the shock of the operation, and the diminution of the pain for a variable period afterwards, I am not aware that ether or chloroform exerts any influence, good or bad, upon the progress of the wound, or the ultimate recovery of the patient.

"We have sometimes thought the oozing of blood from wounds, after the administration of ether, to be greater than under ordinary circumstances. It always ceased upon the application of moderate pressure, and secondary hemorrhage very rarely occurred.

"Though I cannot but regard the introduction of anæsthetic agents as a general improvement in surgery, I hope enough has been said to show that I am not without due sense of the danger that may result from them, and of the great caution required in the employment of such very powerful agents."

82. *Ammonia as an Antidote to Anæsthetic Agents.*—Mr. R. O. JOHNSTON suggests (*Prov. Med. & Surg. Journ.*, June 29th), the inhalation of the vapour of ammonia as an antidote to anæsthetic agents, and relates some experiments which seem to justify the suggestion.

83. *Tetanus successfully treated by Chloroform.*—Mr. R. L. BAKER reports (in the *Lancet*, June 3d), the case of a man who had his hand crushed in some machinery, and a portion of the first phalanx of the ring finger of the right hand torn off, leaving a portion of the integument on the upper side sufficient to cover the end of the bone, and to form a good stump. It was dressed in the usual way, and the patient continued his employment. Two days afterwards the fingers became swollen and painful, and on the fifth day after the accident, Mr. B. received an urgent message to visit the patient with Dr. Fletcher. They found him perfectly stiff with tetanic spasm. He appeared conscious, but had lost all power of articulation and deglutition. The whole surface of his body was bathed in perspiration; every muscle seemed implicated in the spastic action; indeed, he had all the ordinary symptoms of traumatic tetanus, and no hope was entertained of his recovering from this condition. They ordered a turpentine enema to be administered immediately, and the tincture of cannabis sativa to be given in doses of twenty minims every three hours; and thinking it a favourable case for the application of the chloroform, it was arranged that it should be administered on the next visit. At 2 P. M. Mr. Baker again saw him, and found him in the same state in which they left him in the morning. The attendants could not get him to swallow the medicine, and made ineffectual attempts to give a glyster. Under these circumstances he administered the chloroform on a handkerchief, and in about three minutes the muscles began to relax. The thumb, which had been firmly grasped by the fingers into the palm, became quite easily moved; for a short time he muttered incoherently, then answered two or three questions rationally, and finally sank into a sound sleep, with the muscular system relaxed and free from convulsions. Mr. Baker kept up the effect of the chloroform for three quarters of an hour, and left him asleep, having prescribed a blister to be applied to the back of the neck, and two grains of calomel every two hours, to get free action of the bowels. At 9 P. M. he again visited him, and learned that an hour after he had left him, the patient awoke, as if from sleep, with the free use of his limbs restored, and asking to be assisted to the night-chair, where he had a copious stool, and entered into rational conversation with those around him. From this time his general health gradually improved; but the finger continued much swollen. Finding, on the 3d ultimo, that the pain had increased, with slight muscular convulsive twitches, and thinking that the finger might be the cause of irritation, and, consequently, being fearful of a return of the tetanic symptoms, Mr. Baker determined to remove the finger at once. Not having the chloroform with him, he amputated it without its use; and since its removal there has been no return of the convulsive symptoms, and the patient is doing well.

The tetanus came on five days after the accident, and the finger was amputated on the eleventh day after the original injury, and six days after the successful administration of chloroform.—*Prov. Med. & Surg. Journ.*, June 14, 1848.

84. *Local Effects of Chloroform and other Anæsthetic Agents.*—MR. NUNNELEY, at the annual meeting of the Yorkshire branch of the Prov. Med. and Surg. Association, stated that for many months he had been engaged in making experimental researches on these agents, with a view to ascertain, as far as possible, the *modus operandi*, the doses which may be borne with impunity, and the different modes of application; as well as, in case of an overdose, the best means to be adopted to counteract it. His experiments have not merely extended to the common anæsthetic agents employed, such as ether and chloroform, but he has been endeavouring to ascertain whether or not there may be some others, which may either be more safely administered, or may possess still greater advantages than the usual agents employed; which appeared to him to be by no means impossible, inasmuch as, so far as he could ascertain, the selection of those now employed, rather than others, seemed to have depended more upon accident than deduction from experimental research, proving them to be in all respects the best. He stated that he believed it not improbable that it would ultimately be found, that all those preparations which have a *radical basis*, (in the language of modern chemistry,) such as acetic ether, bisulphuret of carbon, aldehyde, and many others of an analogous character, upon some of which he had made extensive experiments, would possess similar properties on the animal economy.

Mr. Nunneley was also prepared to state, that *chloroform appeared to be most deleterious to life*, to require the greatest care in its administration, and that the boundary up to a fatal dose is by no means well marked—that of two animals, in apparently the same condition, the same dose being given in precisely the same way to both, the one will speedily die, while the other will bear it with impunity,—that from the effects observed, he has reason to think the ultimate effects are in some respects not dissimilar to those produced by prussic acid,—that to some animals, as for instance the newt, the frog, the toad, some fish, slugs, snails, and some insects, the effects are *more* rapidly fatal than prussic acid of Scheele's strength; and that even in higher animals, when under the influence of an incomplete dose, or recovering from the effects of a large dose of either chloroform or prussic acid, the phenomena are in many respects very similar,—and further, that the numerous *post-mortem* examinations which he has made, fully corroborated this opinion. He stated that acetic ether, with which he had made numerous experiments, possesses very considerable anæsthetic powers,—that bisulphuret of carbon does also possess to some extent similar power, and so far as his experiments go, it is very important to add, that this power is of a safe character, the animal speedily recovering. But of all these remedies he believes that sulphuric ether will be found to be the safest and least noxious to life.

On these points Mr. Nunneley intends hereafter to lay his experiments, already very numerous and varied, before the profession. His chief object, on the present occasion, was to call the attention of the profession to experiments proving, as he thinks, the value and safety of a *new mode* of administering these agents, and to show that the action of all, or most of these agents, might be produced *locally by local applications*, the sensorium being unaffected, consciousness being retained, and the limbs not subjected to their influence being unaffected. He stated that either by *immersion* in a small quantity, or by the *vapour applied* merely for a limited period, a limb may be rendered *perfectly motionless and senseless*, and what may be an additional advantage, *fixed in any desired position*. He had immersed his finger in these fluids for about half an hour or an hour, and at the end of this period the finger was nearly powerless and insensible, and that it was forty-eight hours before the effects entirely disappeared, a sensation of heat and discomfort extending along the tract of the nerves to the axilla. Before operating on a difficult case for artificial pupil, he had applied for twenty minutes a small quantity of the vapour of chloroform to the eye by means of a small jar which accurately fitted the orbit, with the effect of rendering the parts nearly insensible. The first effect of these agents, when locally applied, is to produce redness, heat and smarting, which subside, followed by swelling and redness of the integuments, which remain for some time. Mr. Nunneley stated that he could completely paralyze any limb of frogs or toads by immersion or exposure to the vapour, in about five minutes or less; and he mentioned, as a curious fact, that if the exposure to the influence were continued longer than was sufficient to produce a local effect, this influence ex-

tended to the corresponding limb of the other side: thus, for instance, if one hind leg became *too much* influenced, the other hind leg partook of the same effect—if the fore leg were too much affected, then the other fore leg became so likewise, and subsequently, the whole body—a result which Mr. Nunneley mentioned as strongly corroborative of his experiments with prussic acid, as detailed in the last volume of the “Provincial Transactions,” and strongly supporting the opinions of Dr. Marshall Hall on “reflex action.” By this new mode of application to the hind legs of rabbits, he had also been enabled to amputate the toes without the least indication of feeling.

These views were illustrated by a series of interesting experiments on frogs and toads, in which, after immersion for a few minutes, the limbs became insensible, and were amputated in repeated portions without any symptoms of pain whatever.

[We are indebted to Mr. Nunneley for the foregoing account, (taken from the forthcoming volume of Mr. Braithwaite’s “Retrospect,”) and also for a letter on the mode of performing the experiments on animals, from which the following is an extract:—

“For showing the local effect, nothing is better adapted than the living leg or legs of a frog. All that is necessary is to put a few drops of the agent we wish to ascertain the effect of, into an ounce, ounce and a half, or two ounce vial, according to the size of the frog, having such a mouth as to receive the limb, and just fit round the upper part of the thigh, without, however, compressing it, and in order to avoid the vapour escaping, then passing round a few folds of a strip of linen or other bandage. If it is wished to see the effects of the vapour, the bottle should be sufficiently long not to allow the toes to touch the fluid, and the bottle should be kept quite still in an upright position; but if it be wished to apply the fluid itself, then the toes should touch the bottom, or the bottle be from time to time placed on the side in order to allow the fluid to pass over the limb, by which proceeding but little of the substance is required. At first, the creature struggles, the fluid evidently acting as a stimulant, and at that time a little effort is required to keep it in its position; presently it will remain *in situ*, for the immersed member becomes still and motionless. In from two to five minutes the full effect is produced, and the limb is perfectly insensible. If one leg be kept in too long, the other hind leg is affected, or the whole body is brought under the influence of it; when the experiment is less satisfactory, and the animal is liable to die. After the application the limb remains for some time swollen, and the colour of the skin is altered.

“In the case of other animals, the time necessary for immersion, before complete insensibility takes place, will vary with circumstances, as to the temperature, but more especially the aptitude of the integument for absorption, and the nature of its covering. Thus, if the skin be hard, the epidermis thick, with the hair stiff and long, then a considerable period will be required. In the case of a rabbit, the other night, after an hour’s immersion, I cut off the whole of the toes in succession, and then amputated the entire foot, cutting through the metatarsal, and then the tarsal bone, the creature lying upon my knees in the most quiescent state possible, there not being the least disturbance of the countenance during these operations. But the moment either of the other limbs was touched, and also what is of great interest, the *same limb above where the chloroform had reached*, it at once started up, with every indication of pain, showing how precisely the effect may be limited. The same operations I have also performed upon a kitten, and upon two dogs (old); these were, as might be expected, after a similar length of immersion, though considerable diminution of sensibility was produced, not rendered entirely devoid of feeling.

“I may mention that to-day (June 22d), I have operated upon a staphylo-matous eye, in a man from a distance, after the local action of chloroform, when I removed the entire cornea with a small portion of sclerotic coat and iris, with hardly any infliction of pain; and what is singular, so completely were the muscles of the globe affected, that for some time afterwards the remains of the eye did not collapse, although their attachments were not cut through. The fluid had been applied longer than necessary, and longer than I had intended, for, after having given directions that it should be applied until my arrival, I was detained away longer than I had expected.

"I have been making experiments upon two new agents, both of which I find to possess considerable anæsthetic property, and one of which I believe will prove to be superior in every respect to chloroform."—*Prov. Med. and Surg. Journ.*, June, 1848.

85. *Local Anæsthesia: Notes on its Artificial Production by Chloroform, &c., in the Lower Animals and Man.* By J. Y. SIMPSON, M. D., &c., Prof. of Mid., &c. (*Prov. Med. and Surg. Journ.*, July 12th, 1848.)—In this paper, the learned Professor, after some remarks tending to show that the artificial production of a state of general anæsthesia before the performance of surgical operations, is not altogether an idea of modern times, and that the ancients also seem to have entertained the idea of the possibility of producing a state of *local* and limited anæsthesia in any part operated upon, gives the results of a number of experiments performed by him upon the lower animals, and two upon man, with a view to the possibility of producing a state of local anæsthesia. His experiments on the lower animals were most striking and satisfactory, but our limits will not permit us to detail them. The following are the general results of his experiments on the human subject:—

"1. When the hand is exposed to an anæsthetic vapour, it belies presents the sensations of a limb benumbed, by compression of its larger nervous trunks—the sensations, in fact, of partial or commencing paralysis. Usually after a short time, a glowing or burning feeling is perceived in the parts most exposed, and gradually there supervenes a sensation of thrilling and pricking (like a limb asleep), which deepens more and more. The skin turns red, and the hand at last becomes stiff and clumsy, and feels as if enlarged, and painful impressions, as pricking, pinching, &c., are felt less and less than in the other unexposed hand. After the hand experimented upon is removed from the vapour, it is generally half an hour or more before its usual normal feelings are quite restored. The nerves of motion are usually apparently as much affected as the nerves of sensation.

"2. When the jar containing the chloroform or other anæsthetic fluid experimented upon, was immersed in warm water, so as to raise the vapour of the fluid more fully and quickly, the resulting anæsthetic effect was always greatly increased, both in rapidity and intensity.

"3. The vapour of chloroform proved stronger than any other that was tried. When one hand, for instance, was immersed in a jar containing the vapour of sulphuric ether, and the other in a jar containing the vapour of chloroform, (both jars containing similar quantities, and being subjected to the same degree of heat,) the hand in the chloroform jar was both more speedily and more deeply affected than the other. In addition to the vapour of chloroform and ether, I have tried comparative experiments with the vapours of aldehyde, bisulphuret of carbon, iodide of methyle,* &c. The aldehyde had little or no effect of any kind. The iodide of methyle produced a very severe burning sensation, and left the hand intensely red and erythematous for a day or two afterwards, but with no marked anæsthetic influence. Among several of us that tried the vapour of bisulphuret of carbon, only one bore it for any length of time, (about an hour,) and in him it did not render the hand anæsthetic in any very appreciable degree; in myself and others the sensation of heat and burning became so utterly intolerable, as to force us to withdraw the hand in two or three minutes. Immersion of the hand for half an hour in Dr. Fleming's very powerful tincture of aconite,† or in a strong

* "Two or three months ago I began a series of experiments with the intention of testing the anæsthetic effects (if any) of the various respirable compounds of methyle, acetylene, &c. I was prevented from proceeding far in the inquiry, in consequence of the effects following the inhalation of the compound mentioned in the text—viz., iodide of methyle. I found it very powerfully anæsthetic, but dangerously so. After inhaling a small quantity of it for two or three minutes, I remained for some seconds without feeling much effect; but objects immediately began to multiply before my eyes, and I fell down in a state of insensibility, which continued for upwards of an hour. I did not recover from the effects of it for some days."

† "Some other forms of preparations of this and the other substances may possibly produce different results, as we know that aconite, when chewed, causes a numb-

tincture of opium and of Indian hemp, and in a strong solution of belladonna, produced no appreciable anæsthetic effect.

"4. The hand, when plunged in liquid chloroform, is usually somewhat more deeply apathized than the other hand simultaneously held in the vapour of chloroform. This was the more general result with those who tried the experiment; but in some the chloroform vapour was as anæsthetic, or more so, than the liquid. Few persons can keep the hand for any adequate length of time in liquid chloroform; the sensation of burning becomes so intense and insufferable, as to force them to withdraw it in a very few minutes. On one occasion I held my hand for upwards of an hour in liquid chloroform without the part being more deeply apathized than it would have been by exposure to the vapour. One of my pupils, Mr. Adams, perseveringly retained his hand in the liquid chloroform for upwards of two hours: no great or very marked degree of local anæsthesia resulted. In these cases, in which the hand was long steeped in liquid chloroform, the sensations of burning returned severely, from time to time, as if in waves, during the experiment; and on removing it from the jar, the feelings of heat were temporarily aggravated; the normal sensibility of the parts speedily returned, and was completely restored within an hour or two in all, but the skin sometimes remained red and injected for a longer period, occasionally for several hours.

"5. The anæsthetic effect of chloroform, &c., is increased, both in rapidity and in degree, by immersing the hand, with the cuticle softened and moist. When one hand, for instance, is immersed without any preparation, and the other is prepared by being bathed and fomented for ten or twenty minutes previously, the latter almost immediately begins to tingle under exposure to the vapour, the dry hand not for some minutes; the degree of anæsthesia is also ultimately deeper in the moistened hand.

"6. The degree of delicacy of skin in the person or part exposed to the anæsthetic vapour influences the result. In females I have seen the degree of the local anæsthesia of the hand that was produced, much greater and deeper than I could ever render it in the male subject. In applying the vapour of chloroform in small cupping-glasses, &c., to different parts of the body, as the insides of the arms, &c., the resulting degree of local anæsthesia seemed, in a great measure, regulated by the tenuity of the skin of the part experimented upon. The skin of the axilla seems too tender to allow of the vapour being applied for a length of time sufficient to produce anæsthesia. One of my students, who kept both his lower extremities enveloped in strong chloroform vapour for three continuous hours, felt no appreciable local anæsthetic effect from it.

"When strong chloroform vapour is locally applied to mucous surfaces, the attendant sensations of heat and smarting are too severe to allow of its sufficient continuance; at least, this is the result that I have obtained in applying it with small glasses to the inside of the lips, the tongue, and eye. Mr. Nunneley states, as we have already mentioned, that before operating on a difficult case of artificial pupil, he had applied for twenty minutes, a small quantity of the vapour of chloroform to the eye, by means of a small jar which accurately filled the orbit, with the effect of rendering the parts nearly insensible. Dr. Duncan and myself have repeatedly tried this experiment upon ourselves; but in none of the trials which we made, with the eye either shut or open, could we endure the burning action of the vapour upon the part above two or three minutes, and with no other result except always rendering the eye experimented upon red and injected, and suffused with tears.*

ness and tingling in the lips and tongue, lasting for some hours.—See 'Christison on Poisons,' p. 2."

* "I have tried the application of various anæsthetic gases and vapours to the vagina, in cases of vaginal irritation and neuralgia, but hitherto without much success. The stronger forms cannot be borne. I was induced to try them in consequence of the following curious statement regarding carbonic acid, published by Dr. Pereira ('Materia Medica,' Vol. I. p. 155).—A lady who had suffered a considerable time from some uterine affection, and had derived no relief from the treatment adopted, was advised to consult a physician in Italy (Dr. Rossi). After he had examined the condition of the uterus, he assured her there was no organic disease, but merely a

"The degree of anæsthesia produced in the hand by exposure of it to the strong vapour of chloroform, does not, in general, perceptibly increase after fifteen or twenty minutes. The same sensations continue if the hand is still retained in the jar; but an increased length of exposure does not, after a time, produce a corresponding increased degree of local insensibility.

"But, finally and specially, I would observe that the degree of local anæsthesia produced in the human hand or skin, by exposing it to the local action of the vapour of chloroform, has never, in my experiments, been by any means so deep and complete in its character as to give the chance of annulling the pain of any severe operation, such as the deep incision, or amputation of a finger. As compared with the other non-exposed hand, the chloroformed hand is generally rendered, to a marked amount, *less* sensitive; but the insensibility is never, I fear, so entire and perfect as will save the patient from the pain of the surgeon's knife. In short, I entirely doubt, whether, in the human subject, we shall ever be able to reduce the knowledge of this possible production of partial local anæsthesia to any practical purpose. It is principally interesting in a toxicological and physiological point of view, and in relation to the doctrine of the mode of action of anæsthetic agents.* Its bearings are more upon the theory than upon the practice of anæsthesia.

"These remarks relate to local anæsthesia as capable of being produced by the anæsthetic agents with which we are at present acquainted. Others may no doubt yet be detected, much more powerful than any we at present know,† and their local application may enable us to effect the local anæsthesia desired. At the same time, this consummation even, seems doubtful; for, perhaps, any agent possessing a deeper and more rapid anæsthetic local power, would, by absorption, affect the system generally, and it may be, dangerously, before complete local insensibility of a part could be effected. Some time ago, in attempting to produce local anæsthesia in my hand, by exposing it to the vapour of hydrocyanic acid, ere the hand was much, or very perceptibly benumbed, I began to feel the constitutional effects of the poison; my respiration became irregular, and I felt giddy and faint, when my assistant removed my hand from the jar. All due care was taken to

considerable degree of irritation, for which he proposed to apply carbonic acid as a sedative. This was done by means of a pipe and tube, communicating with a gasometer situated in another room. The patient obtained immediate relief, and although she had been obliged to be carried to the doctor's house on account of the pain experienced in walking, she left it in perfect ease. On her return to England, she had a relapse of the complaint, and applied to Dr. Clutterbuck to know whether she could have the same remedy applied in London, in order to save her the necessity of returning to Italy."

* "The distinction which exists between the structure and functions even of the skin in the lower animals, as compared with the skin of the human subject, perhaps sufficiently explains the differences in the degree of local anæsthesia, capable of being produced by the local application of anæsthetic vapours and fluids in the one and in the other. 'In animals,' (says Dr. Jackson—see *American Cyclopædia of Pract. Med. and Surgery*, &c., vol. i. p. 115.) "whose skin is moist, and which possesses a very delicate cuticle, cutaneous absorption is a constant and important function. Such are frogs, salamanders, and similar animals. The experiments of Edwards have established the skin in them to be entirely absorbing, and instrumental in their support. It is the opinion of Fohmann, that while the fœtus is in utero, cutaneous absorption from the liquor amnios by which it is surrounded, is one of the means of its nutrition."

† "Perhaps some special modification in the application of galvanism or magnetism to the part to be locally anæsthetized, may yet be found capable of effecting this object. I have tried several experiments, but hitherto without much success. The possibility of deep *local* anæsthesia existing in diseased states, (as in colica pictonum, hysteria, hypochondriasis, &c.,) without the general sensibility or consciousness being affected, is well shown in a late interesting essay of M. Beau, in the '*Archives Générales de Médecine*,' for January, 1848. He relates one case of an insane patient who broke his fibula, and continued to walk about without pain till the limb became inflamed and gangrenous. It was then amputated, and still without the patient suffering in any degree during the operation."

prevent me breathing any of the vapour, and I sat during the experiment in a current of air. I felt the benumbing influence of the acid extending from the hand upwards along the arm a minute or two before the experiment was stopped."

86. *Cold as a Means of producing Local Anæsthesia in Surgical Operations, and certain Painful Diseases.* By JAMES ARNOTT, M. D., Brighton. (*Lancet*, Sept. 9th, 1848.)—Mr. Arnott points out some of the objections to the use of general anæsthetic agents; among others he says with the loss of consciousness, the patient "loses the power of guiding and aiding the surgeon under very important circumstances. He cannot, in this condition, prevent the surgeon's enclosing a nerve in the ligature which he places round an artery, or his seizing a fold of the bladder with the forceps, in searching for a stone. He cannot assume certain suitable postures at the bidding of the surgeon; and when convulsive movements are caused by the anæsthetic, (as is frequently the case,) the surgeon is obliged to proceed under great difficulties, or suspend the operation until the anæsthesia has passed away."

"Few," he continues, "I think, would now, as in the first burst of their admiration, be willing to rank etherization as the leading medical discovery of the age, and to pronounce it the equal of vaccination in importance."

"It must," he thinks, "be admitted that the problem, how to obviate pain without incurring danger, has not been solved by the discovery of etherization. It is undeniably attended with very considerable danger, both from its immediate or eventual effects on the system, and from the patient's loss of consciousness while under its influence."

The method which Mr. A. proposes of producing anæsthesia, "may not," he says, "perhaps be found so effectual as ether or chloroform in removing the whole of the sensibility; but if it should remove so much of this as to render surgical operations tolerable, and consequently less dreadful, and prevent that portion of hazard attending them which proceeds from excessive pain, without adding any new hazard of its own, it would be entitled to a preference."

The local anæsthetic agent which Mr. A. recommends is *cold*. "We have all," he says, "had experience of this anæsthetic, to a certain extent, in frosty weather; and its artificial production in no wise differs from this natural agency, except in degree and the power we have of controlling it. Every minor degree of cold has probably a proportionate effect in diminishing sensibility, but a certain low degree is requisite to render the anæsthesia complete. Fortunately, this is not below that point which may be applied with perfect safety—for, as every one knows, very low degrees of cold act as injuriously on the animal structure as very high degrees of heat.

"The degree and continuance of cold necessary to produce anæsthesia, will be in an inverse proportion to the heat of the part to which it is applied, or rather to its power of generating or transmitting heat. In the natural state, a temperature of the freezing point of the thermometer would in most cases be insufficient, unless of long continuance; but it would be otherwise if the circulation of blood in the part were very languid or obstructed. A temperature ranging between 5° and 25° Fahr. (which can be easily procured by the common frigorific mixture of pounded ice and salt), will produce complete anæsthesia of the skin in two or three minutes. The sudden application of this degree of cold causes a slight tingling or smarting, but not any very unpleasant sensation of cold. It will be proper, however, not to depend upon the period elapsed, but to examine the skin from time to time, in order that the refrigeration may not be carried to an unnecessary extent. A degree or continuance of cold that, under natural circumstances, and without pressure, would solidify the adipose secretion under the skin, will generally be found greater than is required, and ought not, therefore, to be produced. Whether the several tissues require different degrees of cold to produce anæsthesia of them respectively—whether a short continuance of severe cold is more or less anæsthetic and useful than a minor and more prolonged degree—and whether the application of more than one degree might not be advisable in producing deep or extensive anæsthesia, are points remaining to be determined; but any uncertainty about these need not impede the immediate substitution, in many cases, of this anæsthetic expedient for the present dangerous process.

"The anæsthesia of the skin, produced in the manner described, lasts for several minutes, and the only other consequence of the cold, is a slight and quickly evanescent blush.

"In my former paper I described the mode of applying the frigorific mixture by means of a thin, or prepared bladder. It may be applied directly to the skin by means of a common wine or beer glass, containing such a quantity of ice and salt in their dissolving state, as will insure a continuance of a sufficiently low temperature; but, in order that the skin may be examined from time to time, it is more convenient that the vessel containing the mixture should, like the shade or glass chimney of a lamp, be open at both ends; or that it should be made removable by having a bottom, consisting of thin membrane. Cold may be applied to the whole circumference of a limb, by dipping it into the mixture, after covering the part which is not to be refrigerated; or the limb may have a sort of funnel slipped upon it, of a size or depth proportional to the surface intended to be rendered insensible. Other contrivances, suitable for particular purposes, will be obvious to every surgeon; nor will a variety of means of combining pressure with the cold be of more difficult attainment.

"I am sorry that I cannot yet speak with certainty of the depth to which anæsthesia from cold can, when conjoined with pressure, be carried. The dissecting off a small portion of the skin without pain, (an operation which I have repeatedly performed, and which is by far the best mode of forming an issue,) shows that the anæsthesia of the skin, the most sensible of the animal tissues, is complete; and if the skin were deprived of its sensibility, there are few operations that would not lose half their terrors. It must not be forgotten, likewise, that in some operations there would, as in the unconsciousness attending general anæsthesia already adverted to, be a disadvantage in producing complete anæsthesia of all the tissues concerned. Is the safety of the patient to be hazarded in these cases, in order that he may be relieved from a slight and very tolerable degree of pain?

"Before concluding these remarks, I may mention that the surgeon would do well, before employing it in operations, to make himself familiar with the effect of cold, by applying it, in the manner described, to his own arm. He will thus best learn how to regulate the degree, and be immediately convinced of the essential difference that exists between such moderate and brief applications of cold, and those effects of it which happen from exposure of the body in high latitudes, or severe winters.

"With the same view, his first employment of it may be in the minor operations. A French writer mentions, that he does not hesitate to employ chloroform to obviate the pain that would be caused by cauterization, or the application of the moxa; and there are many other similar operations in which we should be glad to save our patients from suffering, if this could be done without hazard.

"In the same work which contained the original suggestion of cold as an anæsthetic in surgical operations, it was proposed to employ it as a remedy in neuralgia. The unequivocal advantage I have derived from its use in one case, corroborates the opinion I had formed, and induces me to think that its influence would be deeper, and its effects more permanent, than the action of aconite and the other narcotics. If a finger be kept immersed for a little while in a frigorific mixture, a deep-seated numbness will be produced, and will continue for many days afterwards.

"A degree of cold below the freezing point of water is, I believe, a new agent in therapeutics, which could, probably, be usefully employed for various other important purposes. A solution of salt, of a very low temperature, by acting on the exposed nerve, might at once, and permanently, remove toothache; and a frigorific mixture, contained in a bladder, or other waterproof case, would probably be a powerful means of checking hemorrhage in accessible internal parts, or during surgical operations. The same principle might also be usefully applied in the treatment of cutaneous, and other superficial diseases attended with distressing sensations. A minor degree of cold, when long and uniformly continued by means of the current apparatus, I have found an efficient remedy in many such cases; but lower degrees of cold, carefully applied, might, under certain circumstances, prove successful, when a higher temperature would fail."

87. *Local Application of Chloroform for the relief of Pain.*—An anonymous correspondent of the *London Medical Gazette* (Aug. 11, 1848), relates the following case. "An aged person, who had been suffering for ten or twelve days under very acute pain from internal suppuration and disorganization of the eye, with pus in the anterior chamber, (her age and circumstances prohibiting the employment of very active measures for subduing inflammatory action,) was most effectually relieved of pain by the vapour of chloroform applied directly to the eye by means of the common chimney glass of an Argand lamp. A small piece of rag being moistened with the fluid, it was placed in a saucer over a cup of warm water, and the vapour thus directed slowly to the eye; relief was almost immediately experienced, and after a very few applications she had no return of pain, comfortable sleep being also procured by the remedy."

88. *Disagreeable Effects from the Use of Anæsthetic Agents.*—Mr. TOMES, in his valuable course of lectures on Dental Physiology and Surgery (London, 1848), just published, relates a number of cases in which very unpleasant effects followed the use of anæsthetic agents.

He mentions the following case to enable the reader to judge "whether it is wise to use it [chloroform] on trivial occasions."

"Previous to the discovery of the anæsthetic effects of chloroform, Mr. J. Bell brought to the hospital a little chloric ether, or terchloride of carbon as it was then called, that its effects might be tested. A female patient from the venereal ward was brought by her nurse to have a tooth removed. She was speedily rendered apparently insensible by inhaling the chloric ether, and the tooth, a first permanent molar, was removed. She did not seem to feel the operation—there was no expression of pain. In a few minutes after the removal of the tooth, the patient regained her consciousness. She then said that the operation gave her great pain, and described it so accurately that no doubt remained that she felt the usual amount of pain; but the power to move, she said, was suspended; she could not move in the slightest degree any part of the body, so that the power to express pain was paralyzed. The ether was given in the morning; during the day she fainted several times, had headache, and felt altogether unwell, and was very angry at us for giving her the ether. She said that she had never fainted before, and that the ether had made her ill.

"As the disposition to faint was no doubt caused by the chloric ether, I did not again use this drug. Chloric ether consists of chloroform, with eighty per cent. of alcohol."

The following cases are also related by Mr. Tomes, illustrative of the ill effects sometimes following the administration of chloroform.

"The stomach," he says, "is sometimes deranged by chloroform. I have known of several cases in which distressing sickness was excited by the inhalation, and in one instance this lasted for twelve hours, and was compared by the patient to violent sea-sickness.

"During inhalation the patient sometimes struggles so violently, that it is only by force that the inhalation can be continued. Only a few weeks since I failed to produce suspension of the muscular power, though assisted by the medical attendant, so violently did the patient resist. Yet, on recovery, he was unconscious that he had resisted. In a second case, two gentlemen came with a patient, and with their assistance in holding him, I succeeded in removing two teeth. On recovery, he recollected neither the struggling, nor the extraction of the teeth.

"I have become acquainted with two cases in which the imagination was strangely affected for several weeks after the inhalation of chloroform. A lady between the age of thirty and forty suffered pain from several unsound teeth. Accompanied by a lady who had recently lost a little girl, and by her husband, she applied to a dentist. Chloroform was administered, and the tooth removed. She felt great difficulty and anxiety when inhaling, and wished to discontinue, but the dentist reassured her, and she went on. Her first sensation, on recovering, was the sound of her own voice, calling bitterly for the little girl who had recently died. This affected her very much, and she fell into a violent hysterical fit. On recovering she was conveyed home, but still bewildered, and at times hysterical. For three weeks she at frequent intervals heard her own voice calling for the little girl,

and this was immediately succeeded by a fit of violent hysterical crying. Her friends became very anxious for her safety, both mentally and bodily, for she suffered in health, as well as from these occasional hallucinations. Any attempt to read or to write brought on a violent headache, and in addition to these evils her nights were, comparatively, sleepless. She eventually recovered by the use of tonics, stimulants, and generous living. This is her own account. Her friends state that under the operation she evinced no signs of pain; but that previous to the time, she recollects hearing her own voice, she had been calling for the child, had asked its mother to restore it to her, and expressed the most bitter feelings of regret at its loss.

"The lady has had a tooth out since, but not with the chloroform. She seems very much averse to its use, and says nothing would induce her to take it again.

"In the second case, the hallucination took a different form. The patient, a young lady, under thirty, required three teeth to be removed. Her ordinary dentist declined giving her chloroform, on the ground that it was dangerous in all cases, and that it was not necessary or right to give it in tooth-drawing, or any other trivial operation. Hence she sought a stranger who was less punctilious. She was soon rendered insensible, and three teeth were extracted during the time. On recovery she remembered the extraction of the three teeth, and described the operation correctly, and declared it was attended with great suffering; but she believed the pain to be imposed for sins she had committed; that in truth she had been in purgatory, and had suffered there, and had again to go, she said. At first her friends thought she was joking, but after a little time they discovered that, when unoccupied with external objects, the mind constantly fell back upon this idea. In addition to this, she was very nervous and excited, and in the evening asked to have some one to sleep in her room. This proved fortunate, for during the night she was attacked with a fit of collapse. Brandy was freely administered, and a medical man sent for, who with stimulants restored her. For a fortnight after the inhalation she continued very miserable, and subject to the frequent recurrence of these hallucinations. Her condition caused great alarm to her friends, who could not tell how long it might continue, and did not feel justified in leaving her for a moment alone while in that uncertain state of mind. In each of these cases, the patients were reported to be of highly nervous temperament, and subject, under great excitement, to hysterical crying.

"Mr. O. Clayton related to me a case in which catalepsy, with a tendency to coma, was induced by the inhalation of ether, and lasted for four days. The pupils were dilated, and the patient was insensible to all that was passing around her; but could be partially roused for a moment by loudly shouting in her ear. She took no food, and drank only when forced to do so. If the arm was raised, it retained the position for awhile, and then slowly fell back on the bed. There seemed great reason to fear a fatal termination.

"The patient was a servant-maid, and predisposed to slight attacks of hysteria. She required a tooth to be removed, and asked to take ether. She recovered from the more urgent symptoms under the use of stimulants, but did not regain her usual state of health. Neither has she done so at the present time, though many months have elapsed since she inhaled the ether.

"I am indebted for the following interesting case to the kindness of my friend Mr. Chalk, who obtained the details from Mr. Bird, of Haverstock Hill, in whose practice the case occurred. It appears that two ladies repaired to a dentist's, one to have teeth removed when under the influence of chloroform, the other, as companion to the patient. In giving the history, Mr. Bird uses the words of his patient and her friend, and his own in relating the treatment and its result. 'The patient says—"Wishing to have two teeth extracted, I applied to a highly respectable dentist, for permission, in the first instance, to see one of his patients inhale the chloroform, which he kindly allowed, and afterwards appointed the next day for the time of my own operation. I accordingly went, accompanied by a female friend, and took my seat in the operating chair; the process of inhalation was commenced. I distinctly recollect hearing the gentleman say 'she is now under its full influence;' and he commenced the extraction, when I gave as loud a scream as I did on any previous occasion of tooth-drawing—although I felt a very pleasant soothing sensation." The inhalation was repeated; and here I must let her friend

speak:—"The second tooth, a stump, was then taken out without the least sign of pain; her countenance became ghastly, and my friend was in as complete a state of intoxication as could well be borne—almost pulseless—scarcely breathing, and I made up my mind she would die, and suggested the propriety of calling in medical assistance. The windows were all thrown open—brandy administered, and two bottles of eau-de-Cologne consumed in bathing the face." This state lasted three hours, when she was lifted into her carriage, and taken home, with directions to let her go to bed and remain quiet. This was about seven in the evening; she laid nearly all night in a restless half unconscious state, until five o'clock the next morning, when, reaction taking place, I was sent for, and found my patient in a high state of delirium—obliged to be held down in bed; leeches, blisters, &c., the usual mode of treatment, was adopted, and in four days she regained her senses. I am sorry to add that I sometimes find a vacancy in her manner, which leads me to forebode insanity sooner or later—a condition which I never observed previous to the inhalation, although I have been acquainted with my patient for ten years."

"Mr. Isles, of St. Andrew's Court, Holborn, related to me the case of a female, in which the inhalation of an anæsthetic was followed by great nervous irritability, excitement, and sleeplessness, which was succeeded by an attack of phrenitis, from which the patient narrowly escaped with her life. Probably the dentist who gave her the vapour heard nothing of this."

89. *Unpleasant Effects from Inhalation of Ether Vapour.*—Dr. H. J. BIGELOW states, (*Trans. Am. Med. Assoc.*, p. 209.) "A gentleman of Providence informed me that he has suffered for many months from *vertigo*, *headache*, and *disability for labour*, which ensued upon a dose of ether vapour."

90. *Death by Hemorrhage from the Lungs after the Administration of Chloroform.*—Birkenhead, Saturday, March 12th.—12 P. M. Dr. Walker, Dr. Robertson, and Mr. Macdougall were hastily summoned to visit Dr. Anderson, at No. 11, Church street. Found the patient very anxious, with a jerky, bounding pulse of 115. Dyspnœa and blue lips. He had expectorated about six ounces of fluid blood, of a florid appearance, and frothy from admixture of air.

There was dulness on percussion over both sides anteriorly. Harsh, irregular crepitation heard extensively with the stethoscope in front, and a bubbling rhonchus over the position of the larger tubes, especially on the left side behind. The patient felt a sense of constriction about the chest, with a dull pain in the back.

He stated that he was seized with a very acute pain in the back (to use his own words, "as if his back were about to separate into two"), immediately before the hæmoptysis came on. He mentioned that, on the day before (Friday, the 10th), he had allowed a dentist in Birkenhead, named Wainwright, to administer the chloroform to him prior to extracting a molar tooth. The rest of that day (Friday) he had felt much excited, with a peculiar "rushing in the carotids."

The next day, Saturday, he felt rather languid, especially towards evening, when he was scarcely able to walk from debility, and a burning pain in the back of the chest. He took a cup of cocoa, his usual beverage, and retired to bed a little after eleven o'clock, when the hemorrhage commenced.

His frame was spare. His habits were very studious, sedentary, and abstemious. For some time previous to taking the chloroform, he had felt a weakness about his chest, which caused him frequently to sink forward in the chair whilst reading, so much so that the book would fall out of his hand. Had no cough, however, although he felt some uneasiness from what he considered to be "slight cold." He said he considered the chloroform the exciting cause of the hemorrhage.

The medical men at this time considered the hemorrhage to depend on general exhalation from the general surface of the air tubes as a natural relief to greatly congested lungs.

After consultation, it was resolved to bleed from the arm to eighteen ounces, and follow this immediately with a sedative dose of ten grains of calomel with three grains of henbane; and afterwards to give one-eighth of a grain of tartar emetic, and two grains of calomel, at intervals of three hours for three successive

times, with a view to keep up the sedative effect, and to induce absorption of the blood effused into the air cells. Perfect quietude enjoined, with a diet of cold, thin gruel.

Further details of the treatment need not be given. On the 15th, Drs. Walker and Mr. Macdougall sent for in haste at half-past seven A. M. Hemorrhage returned to nearly three ounces, in one gush, and followed by fatal syncope. Heart ceased to beat at twenty minutes past eight A. M.—*Lancet*, July 22, 1848.

91. *Death during the Inhalation of Chloroform.*—M. ROBERT, surgeon to the "Hôpital Beaujon," reports the following case:—"A young man, twenty-one years of age, was admitted, on the 25th of June last, into the 'Hôpital Beaujon,' for a severe fracture of the shaft of the femur, caused by a ball which had traversed the limb from before backwards. Disarticulation of the thigh was decided upon. The patient was put under the influence of chloroform by means of the apparatus, divided by a spiroid diaphragm made of netting, and provided with a large mouth-piece; the nose was secured by an assistant. In three or four minutes there were a few convulsive movements pointing to the period of excitement, and soon after a complete state of relaxation came on. A large anterior flap was then made, beginning three fingers' breadth below the anterior superior spine of the ilium; hardly any blood was lost. The patient at this moment woke, and M. Robert desired that more chloroform should be given, and continued the operation. Hardly had a quarter of a minute elapsed, than a loud stertorous breathing was heard, and the apparatus was withdrawn. The patient's face was extremely pale, lips blanched, and the eyes, the pupils of which were greatly dilated, were drawn so high upwards as to be hidden by the upper lid. The operation was immediately suspended. The pulse at that time was hardly perceptible, all the limbs were in a state of complete relaxation, and the breathing was heard at long intervals. Frictions, irritation of the pituitary membrane, forced movements of the arms and of the ribs, were resorted to; several times the respiration seemed to become more vigorous, and the pulse more distinct, but this was but a momentary improvement, and it was but too apparent, after three-quarters of an hour of incessant efforts on the part of the persons present, that the patient had ceased to exist. The sudden paleness of the skin, the annihilation of the pulse, evidently pointed to syncope; and as the latter cannot be ascribed either to hemorrhage or a protracted operation, it must be concluded that syncope was the immediate result of the inhalations of chloroform; the more so, as none of the symptoms of the admission of air into the veins were present. The special kind of wound which the patient had received, as well as the stupor and shock consequent upon it, should, at the same time, be taken into consideration, besides the deep dejection and despair in which he was plunged."—*Lancet*, Aug. 5th, 1848.

92. *Death following the Inhalation of Chloroform.*—By M. GORRE, Surgeon-in-chief to the Hospital of Boulogne. (Communicated to the Academy of Med., July 4th, 1848.) Mlle. Stock, a young person thirty years of age, well formed, enjoyed habitually good health. I ought to state, however, that she had consulted me some months previously for palpitation, which appeared to me to depend on a chlorotic state, and on which preparations of iron had the happiest effect. Her health since then had experienced no change!

Some weeks since she was thrown out of a carriage, and besides some contusions, the result of the fall, she was wounded in the thigh by a splinter of wood, which made its way beneath the skin, without leaving any trace besides a very small laceration, and the presence of which was not then recognized. Her medical attendant applied some leeches over this point. Fluctuation being soon manifest, he proposed an incision, but the patient refused. Some days afterwards pus escaped in some quantity through a spontaneous opening, and as the suppuration did not cease, I was called to the case. I easily made her understand that a free incision was necessary for her complete recovery. She now consented, but on condition that I should put her under the influence of chloroform. I had no reason to refuse her request. I went next day with some chloroform, the good quality of which cannot be doubted, as it was supplied from the Chemical Laboratory of Quesneville.

I found my young patient in her usual good spirits, free from all fear; her usual medical attendant was present, and a midwife, to render assistance. Everything being ready for the operation, in itself very insignificant, I placed over the nostrils of the patient a handkerchief moistened with from fifteen to twenty drops at the most of chloroform.

Scarcely had she taken several inspirations, when she put her hand on the handkerchief to withdraw it, and cried with a plaintive voice, "I choke!" Immediately the face became pale; the countenance changed; the breathing embarrassed; and she foamed at the mouth. At the same instant (and that certainly less than a minute after the beginning of the inhalation), the handkerchief moistened with chloroform was withdrawn. But persuaded that the bad symptoms were only evanescent, and that it would suffice for the effect to cease to have suppressed the cause, I hastened to pass a director into the small fistulous wound in the thigh and to lay open the abscess in its whole extent—that is to say, between two and three inches, and I withdrew from the bottom of the wound a small, thin, and pointed splinter of wood. During the infinitely short time occupied by this little operation, my colleague sought by every means to remedy the threatening annihilation of life. I joined him, and both of us put into force with activity the measures most likely to prevent a fatal issue.

Frictions upon the temples and the precordial region, throwing cold water on the face, tickling the fauces with a feather, blowing air into the air-passages, ammonia to the nostrils, everything that it is possible to do in such a case, was tried by my colleague and myself, during more than two hours. We were willing to believe that there was only a suspension, not an abolition of the sensorial functions. It seemed impossible that the inhalation of so minute a quantity of the anæsthetic agent during so short a time, (not, indeed calculated by the watch, but certainly not more than a minute,) had been sufficient to extinguish life. Our efforts were vain!

This death, though we clung to the belief that it was but apparent, was real: and it had been so prompt, that already it was without doubt complete at the moment when I made the incision. I can only give a just idea of the lightning-like rapidity with which it was produced, by saying that it recalled to me most accurately death from the accidental introduction of air into the veins. The details of the very minute examination give value to this analogy, the idea of which struck me when observing the symptomatic expression of the last moments of life.

Autopsy 24 hours after death.—Exterior aspect. The right side of the face presents several large eschars, the skin being, as it were, parchment-like: these eschars are due to the ammoniacal frictions made to recall life. Complete rigidity of the limbs; cornea dull; abdomen distended with gas; a blood-stained bandage covers a wound at the internal superior part of the right thigh.

Head.—Scarcely any blood flows from the cutaneous incision. The superior longitudinal sinus is empty; the veins on the convex surface of the brain are not engorged, but they present this remarkable peculiarity, that the column of blood is broken every here and there by bubbles of gas. These veins when punctured collapse, owing to the escape of the gas. There is also air in the veins at the base of the skull. Numerous bullæ of air escaped with the blood from the ophthalmic veins, the cavernous sinuses, and the inferior cerebral veins. The lateral ventricles contain a moderate quantity of serum. The substance of the brain is firm; no drops of blood escape on cutting into it.

The air escapes, bubbling up in the midst of a remarkably black and very fluid blood, from the internal saphena and the left crural veins. The crural artery is entirely empty.

The right thigh presents, on the inner side of it, in the upper part and somewhat backwards, a wound made in opening an abscess. This wound, made through the skin and cellular tissue, is stained with black blood; the vena saphena is at a distance from the incision, and could not have been touched by the bistoury. The universal presence of air in the circulatory system called for a careful examination of the blood-vessels near the wound: dissected with the greatest care, they are found to be perfectly entire.

Chest.—The lungs, especially the left, are voluminous, and visibly engorged in the lower lobes. When cut into, a large quantity of very black fluid blood escapes.

Remarkable crepitation; pulmonary vesicles dilated by the air blown in during the last moments of life, with a view to reanimate the patient, supposed to be in a state of asphyxia. Neither interlobular nor sub-pleural emphysema; the tracheal mucous membrane is of a bright red; complete absence of froth in the bronchi; some amount of serum in the pleura and pericardium; heart excessively flaccid, of the usual size; right and left cavities absolutely empty. Not the smallest clot either in the auricle or between the fleshy columns of the ventricles; frothy blood in the orifice of the ascending cava. The pulmonary veins, opened near the auricle, allow a little blood to escape, mixed with air. The internal membrane of the heart, especially of the right cavities, is red. Its tissue is pale, and tears easily.

Abdomen.—Liver very voluminous, its colour like the lees of wine; on cutting into it, air bubbles out of the vessels along with much black and fluid blood; the intestines are distended by fetid gas. The spleen is softened, and is gorged with blood; on pressure, several bubbles of air escape from its substance.

In closing the account of this autopsy, I have particularly to notice that the blood was blacker than it is in simple asphyxia. *It was literally as black as ink.* The above post-mortem appearances lead me to the following conclusions, which I submit to the consideration of the Academy:—

Mlle. Stock did not properly, so to speak, die from asphyxia. According to all probability, her death was due to syncope caused by the sudden suspension of the cerebral functions under the influence of chloroform.

The presence of air in the venous system cannot be explained by the introduction of air into a vein imprudently opened when the incision was made in the thigh. The incision being altogether superficial and cutaneous, could not reach a vein of large size.

Nor yet was it the artificial respiration which caused the air to find its way into the circulation through the rupture of the pulmonary cells; for at the moment when the artificial respiration was resorted to, life was extinguished, if it had not been already abolished, and the action of the left side of the heart had ceased.

Thus, by shutting out other causes, one must admit, as the most probable view, the spontaneous formation of air in the veins. Was this fluid produced during life or after death?

Morgagni relates cases of sudden death, in which the autopsy revealed a large accumulation of air in the heart and great vessels, without any possible external origin. In these cases decomposition had not commenced, and no organic change accounted for the death. M. Ollivier (d'Angers) has related analogous examples, which led him to admit the possibility of the disengagement of a gaseous fluid during life, which kills after the same manner and with the same rapidity as if air had penetrated accidentally through the opening of a venous trunk contiguous to the heart.

I am consequently induced to think that the above case must be added to those singular cases of pneumatosi related by Méry, Littre, Morgagni, and among ourselves, M. Ollivier (d'Angers). In this case, it appears to me that the rapidity of the death is due to a complication of causes—namely, first, to the special deleterious influence of the chloroform upon the brain, which led, as the immediate consequence, to the abolition of the sensorial functions; and secondly, to the spontaneous development of gaseous fluid in the circulatory system, the probable result of the hitherto unexplained action of the ether upon the blood, under the circumstances related.

Whatever may be the value of this explanation, one thing is certain, resulting from the case just related, and from that reported in the *Lancet*, that the chloroform, in certain kinds of constitution, which it is absolutely impossible for the man of science to recognize, may cause death with a lightning-like rapidity. Even in experienced hands, there is no certain safeguard against the unfortunate consequences of this agent, which only too well justify the words applied by M. Flourens to chloroform, "*a marvelous and terrible agent.*" Finally, the dangers indicated by M. Bouisson of Montpellier, and Sedillot of Strasburg, are but too real, and in face of the dangers now so thoroughly realized, it would be the highest imprudence still to employ chloroform, as has been done hitherto, for insignificant operations—such as the drawing of teeth, opening an abscess, and the application of a moxa. In future, chloroform should only be exhibited for great operations. In fact, important advantages only can compensate for the risk incurred by the patient

—a risk necessarily incurred even in acting with extreme circumspection.—*Lond. Med. Gaz.*, Aug. 1848.

93. *Death from Chloroform in India.*—The following case occurred at Hyderabad, India, and is related in the words of the operating surgeon.

A young woman presented herself this morning with disease of the distal phalanx of the middle finger of the left hand, requiring amputation at the middle joint. As she appeared of timid disposition, and exhibited more than usual reluctance to submit to the little operation, I administered a drachm of chloroform in the usual way, namely, by sprinkling it on a pocket handkerchief and causing her to inhale the vapour. She coughed a little, and then gave a few convulsive movements. When these subsided, I performed the necessary incisions, which, of course, did not occupy more than a few seconds. Scarcely a drop of blood escaped. The patient was then put into the recumbent posture with the head low. Active means were taken to bring her out of the state of coma, into which she had apparently fallen. But although these means, including artificial respiration, were perseveringly employed for five hours, the *unfortunate woman never breathed again*. I am inclined to think that death was almost instantaneous; for after the convulsive movement above described, she never moved, nor exhibited the smallest sign of life. No opportunity was afforded me of making a post-mortem examination; so that it must forever remain a secret whether or not there were any special circumstances, such as aneurism of one of the great vessels, or disease of the heart."

[The chloroform was supplied by Messrs. Twemlow and Co., Bombay. It required a drachm and a half of the same chloroform in another case to produce a slight effect.]—*Lond. Med. Gaz.*, July 14, 1848.

94. *Fatal Effects from Chloroform.*—Mr. R. O. JOHNSTON states (*Prov. Med. & Surg. Journ.*, July 26th), that he has "seen two deaths from chloroform; one man was in convulsions for forty-eight hours after the operation and afterwards expired."

95. *Death from Inhalation of Chloroform.*—The case which seems to have made most impression upon the public mind, is that of Samuel Badger, Esq., Solicitor of Rotherham, Yorkshire. It appears from the evidence given before the inquest, that this gentleman applied to Mr. Robinson, one of the most skillful dentists in London, and who has had the most extensive experience in the administration of anæsthetic agents, (he stated in his evidence that he had administered anæsthetic agents in at least three thousand cases,) to have some teeth extracted. Mr. Robinson put only a drachm and a half on the sponge of the inhaler. The instrument was not held close to the mouth or face—the deceased had not inhaled it more than a minute, when it appeared to have produced so slight an effect, that he requested to have the vapour made stronger. Before this could be done, however, the head and hand of the deceased dropped—*i. e.*, in one second after he had spoken to the operator. A period of about *five minutes* elapsed from the time at which the deceased entered the surgery to his death. When seen by Dr. Waters, who had been sent for, immediately afterwards, the face was livid, the pupils dilated, and the temperature of the body lower than natural. The following were the post-mortem appearances:

"The body was well formed and muscular; the neck plethoric and rather short; countenance of a bluish livid appearance; eyes [pupils?] dilated, particularly the left; chest well formed, but generally dull all over on percussion, particularly the right side; parietes less resonant over the heart's region than in the natural state. Abdomen prominent, from a deposition of fat; dullness on percussion, extending into the right iliac region; lower extremities not œdematous. On dividing the scalp there was observed some turgescence of the vessels. The membranes presented a congested appearance all over the cerebral mass; there was nothing abnormal in the cerebrium, nor any effusion into either ventricle; the surfaces of the corpora striata and optic thalami were slightly congested; the cerebellum and pons Varolii offered nothing remarkable. On raising the sternum, observation was made of the very small diameter to which the chest was reduced, for it was found that the lungs and heart were pushed upwards to a line extending

between the third and fourth ribs; the lungs were healthy and crepitant throughout their entire extent; there were some adhesions on the right side, of long standing, but no marked congestion.* On dividing the pericardium, no undue effusion of serous fluid was found. The heart looked of a paler colour than usual, and was flaccid, but was not in a hypertrophied or dilated condition; some spots of adipose matter were observed here and there on its surface. On dividing the left ventricle, its walls were found thinner than natural, and its tissue was interspersed with 'fatty' degeneration; this morbid state was particularly observable at the apex, where the muscular tissue only measured about two lines, and the abnormal deposition was very evident at this point; the right ventricle and septum offered nothing remarkable but the lesion of secretion already observed; both ventricles contained clots of dark grumous blood. The inner surface of the aorta felt rather rough, and the mitral valves were unequal at their edges, with some slight rugosity; on dividing their base, the tissue was hard, and made a grating noise under the scalpel. Abdomen: The omentum was loaded with fat; stomach not distended by gases; liver preternaturally enlarged, and extending upwards in a line between the third and fourth ribs; it was of a pale brownish colour, and in some parts almost approaching to a dirty white; this was particularly observable in the Spigelian lobe, where the fatty degeneration was very evident; there appeared to be no other change of structure. It weighed *eight pounds*. The other organs of the abdomen were healthy."

The editor of the *London Medical Gazette*, in commenting on this case, remarks: "The unfortunate case of Mr. Badger is sufficient to show that even they who are most experienced in the use of this agent, are not always able to discriminate those cases in which the inhalation of the vapour is likely to be attended with fatal effects. The deceased was a healthy muscular young man, who, according to the testimony of his father, had suffered from no difficulty of breathing, or any other apparent disease. The inspection of the body, however, revealed a diseased state of the heart and liver, although not sufficient to account for sudden death. Hence we arrive at the conclusion that a young and healthy-looking person, whose appearance and previous habits of life would create no suspicion of the existence of latent organic disease, may still be in such a condition of body that the respiration of the vapour will operate upon him like a fatal poison. It is not here as with a liquid or solid taken into the stomach—the poison enters at once into the circulation, and penetrates through the whole of the system; and but a few minutes elapse between apparently perfect health and the death of the patient. The circumstances under which the poison is administered, do not, in these unfavourable cases, admit of the application of any remedy. The attempt to abstract blood has uniformly failed. Art is powerless in dealing with the poisonous effects of this vapour. It may be said, and we doubt not the truth of the statement, that hundreds, nay, thousands of persons, young and healthy-looking like the deceased, have inhaled this vapour without any such disastrous effects following. We have, however, heard of some very narrow escapes, even where precaution and skill of the best kind had been employed in its administration; and doubtless the experience of many of our readers will furnish them with cases corroborative of this remark. But the death of only one person in a thousand, when the vapour has been skillfully administered—and there was nothing in the patient's aspect or account of himself to induce the operator to withhold his consent to its employment—becomes a most serious matter. There should be some extraordinary advantage or benefit to the individual to justify such a fearful risk; but the advantage, if any, in reference to the dental art, is the alleviation of pain merely for a few minutes; and the naked question now to be considered is, will any operator feel himself justified, after the case of Mr. Badger, in employing this dangerous vapour for the annulling of pain in the extraction of teeth? If latent disease of the heart or liver could always be clearly diagnosed in a patient, we should not be called upon to put this question: but as Mr. Badger's case proves that a most experienced man like Mr. Robinson saw nothing about the deceased to justify his refusal to employ chloroform, it is clear that the most skillful dentist may be working in the dark, and thus unconsciously be the means of sacrificing

* In his evidence at the inquest, Dr. Waters stated that the lungs presented a little sign of congestion.

life for the sake of humouring a patient by annulling a degree of pain which every healthy adult should be able to bear. The facts of this case have, however, a bearing far beyond dentistry. We consider that our remarks apply to all the minor operations of surgery."—*Lond. Med. Gaz.*, July 14, 1848.

96. *Anæsthesia in Ophthalmic Practice*.—We have, in a previous article, (see Art. 57, p. 476,) quoted the observations of Mr. WILDE on this subject, which appear to be so just, that we need add nothing here further in relation to it.

97. *Use of Anæsthetic Agents in Dental Operations*.—Mr. TOMES, in his scientific and highly valuable lectures on Dental Physiology and Surgery,* in speaking of the superinduction of anæsthesia in dental operations by ether, observes:—"At first the reports were all in favour of the new agent, but as time passed on, and the cases multiplied, we heard, at intervals, of unfavourable conditions produced by the inhalation of ether. The effects were more lasting than the operation required: and, in one or two instances, the patients died without ever having fully recovered from the effects of the anæsthetic agent."

Further, he states that, "Ether is now but rarely used, and if it were employed, there is, I think, sufficient evidence in Dr. Warren's work, and in the various papers that have from time to time appeared in the medical periodicals, to necessitate the conclusion that its use should be discontinued in ordinary cases of extraction of teeth, and that it should be employed only in serious operations in which there is great and prolonged pain."

Mr. Tomes, in the work from which we have just quoted, offers the following just views relative to the employment of anæsthetic agents in dental operations.

"I have brought before you," he observes, "the untoward results that occasionally follow the inhalation of chloroform, not with the view of prejudicing you against its use in proper cases, but to guard you against using it needlessly—that you may properly proportion the risk to the advantage. So far as we know, not one in five, or perhaps ten thousand, would be killed by chloroform, if it be cautiously administered. But, supposing even one in ten thousand will be killed, and we cannot tell which that one will be, it is surely unwise to take even that risk, merely to avoid pain that is very bearable, and will not last more than three or four seconds. We surely use a great power to overcome a very trifling difficulty, when we give chloroform preparatory to extracting an ordinary tooth.

"The remedy in my mind seems strangely out of proportion to the evil to be avoided."

"Then again, if the mind is to be disturbed for a week or fortnight (and these cases are not so uncommon), is it well to take that chance merely to avoid a transient pain?"

"Distressing nausea for a day would be, to me, a far greater evil than the pain occasioned by the extraction of an ordinary tooth. I say an ordinary tooth, because sometimes there is inflammation of the gums, or a peculiar shape or position of a tooth, or other complication, that makes the operation unusually painful.

"If such complications exist, or if several teeth have to be removed at the same time, then, the pain being greater, we are, perhaps, warranted in using a powerful antidote.

"With some states of the system it is deemed dangerous to exhibit chloroform, however desirable the immunity from pain may be.

"Supposing we decide upon narcotizing a patient before removing a tooth, it becomes a question how far the narcotism should be carried—whether we should strive to get perfect immunity from pain, or whether we should be content with lessening its degree; and what should be our treatment of the patient during, and after, the narcotism.

"To arrive at a satisfactory conclusion, requires that we should consider the manner in which the phenomena that indicate narcotism succeed each other.

"The order in which the various vital powers are suspended is not always the same. Thus, in one case, it is seen that the patient retains the power to see, hear and feel; so as to recognize contact, while he is unable to feel pain; when in an-

* A course of Lectures on Dental Physiology and Surgery, delivered at the Middlesex Hospital School of Medicine. By John Tomes, Surgeon Dentist. London, 1848.

other, the senses are paralyzed, but the knife excites cries, and efforts to resist. Then again, in a third case, the senses and the voluntary muscular system are equally narcotized. But whichever of the three conditions is present, the patient after recovery, is equally oblivious as to what has been done during the time he was under the influence of the chloroform.

"I believe it is generally agreed by those who are conversant with the exhibition of chloroform, that when the pupil dilates, and the eyelid falls involuntarily, then an operation may be commenced; and that a higher degree of narcotism is unnecessary. Now this is, I think, going farther than is needful to insure immunity from pain in an operation like tooth-drawing. I have found it sufficient to gain partial insensibility. On many occasions the patient has been perfectly aware of the steps of the operation, has felt the instrument grasp the tooth, and then a dragging, and yet little or no pain. If you direct a patient to tell you when he feels himself going off, and at that moment extract the tooth, he will feel little or no pain. I have adopted this plan when necessitated to exhibit chloroform, under the belief that the less the degree of narcotization the less will be the risk of injury to the patient.

"I prefer the minimum dose of chloroform in dental practice on another ground.

"When serious operations are performed, and a large amount of chloroform is given to gain immunity from pain, and save the patient from the shock to the system that would otherwise result from the operation, the patient is carried to bed and is kept perfectly quiet, and possibly sleeps till the effect of the narcotic has gone off. Not so in dental practice. The patient inhales the vapour, falls into a state of insensibility, the tooth is taken out, and, so soon as he recovers sufficiently, returns home. The case, so far as the dentist is concerned, terminates here; we hear no more of the patient. But, unfortunately, there are many instances in which the medical attendant does. His case begins where the dentist's ends. The patient is attacked with headache, with sleeplessness, or sickness, or collapse, or some other indication of indisposition.

"The narcotism ordinarily induced by dentists, previous to extracting teeth, is certainly less in degree, and less prolonged than that produced when serious operations are performed. Yet I believe that the results are more mischievous. I cannot see why this should be the case, unless it is that with the dentist the patient is roused up, and required to use the mind before it has fully regained its proper condition; and that the use, when only partially recovered, is productive of injury.

"On this ground, I think it is desirable that, in dental operations, the minimum amount of chloroform that will insure anæsthesia should be used; and further, that the dentist should not use it at all unless the case be such as to necessitate it."

98. *Chloroform in Midwifery*.—Prof. MURPHY gives the following conclusions as the result of his experience of the action of chloroform in labour.

1st. It does not interfere with the action of the uterus, unless it be given in very large doses, which is never necessary.

2d. It causes a greater relaxation in the passages and perineum; the mucous secretion from the vagina is also increased.

3d. It subdues the nervous irritation caused by severe pain, and restores nervous energy.

4th. It secures the patient perfect repose for some hours after her delivery. These three last effects consequently render an operation much easier to perform and the recovery of the patient afterwards much more favourable.

5th. The order of its effects on the vital functions seems to be, loss of sensation, partial loss of voluntary motion, loss of consciousness, complete loss of voluntary motion, stertorous respiration, loss of involuntary motion, cessation of the action of the uterus, of respiration, of the action of the heart.

6th. Its injurious effects, when an ordinary dose is given, seem to depend upon constitutional peculiarities, or on improper management. Much excitement about the patient may render her violent. Catalepsy has occurred in some; clonic contractions in others. Some patients are slow in recovering from the effects of a large dose; they remain giddy during the day, and sometimes faint when they stand upright.—*Chloroform in the Practice of Midwifery*. By E. W. MURPHY, M. D. London, 1848.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

On a Physical Sign of Pneumonia of the Apex of the Lung. By WM. BOLING, M.D.

ISAAC HAYS, M.D., &c.

Montgomery, Ala., Aug. 11th, 1848.

DEAR SIR—Will you please to make room in your Journal for the following attempt to explain a paragraph which appears in a brief article in the *American Journal of Medical Sciences* for July, 1847, under the caption, “*A Physical Sign of Pneumonia of the Apex of the Lungs;*” and which seems to have been construed by the author of the report submitted to the National Medical Association, on American medical literature, in a sense different from that intended?

It is remarked in the report, in reference to the physical sign alluded to, that “the committee can affirm at least, that it is not constant.” In the paper *six* cases of pneumonia commencing in the apex of the lungs, are spoken of, in only *three* of which is it stated that the sign was present. There is, then, no difference of opinion between the author of the report and myself, on this point.

It is also stated in the report, that,

“It was extraordinary if, as Dr. Boling asserts, the chest remained still resonant on percussion over the apex of the lung in a state of hepatization.”

If I have said this, I really did not intend to do so. Here is what I did say—speaking at the time in reference to the *three* cases in which the peculiar sign described in the paper was *not* present.

“In the other cases the lung run most rapidly into a state of hepatization; the solidification not being preceded by the crepitant rhonchus, but by a total absence of the respiratory murmur, while the chest over the affected part remained still resonant on percussion.”

I cannot see how the latter clause of the above sentence can be understood to have reference to the sound yielded on percussion *after* hepatization had supervened. On the contrary, it seems, and is intended at least, to have reference to the phenomena that *preceded* the hepatization or *solidification* of the organ. No one certainly can suppose that the words hepatization and *solidification*, as used in the sentence, refer to different conditions of the part affected. I did not, I repeat, mean to say—as it is asserted in the report that I did say,—that “the chest remained still resonant on percussion over the apex of the lung in a state of hepatization,”—but that, in the *particular cases* alluded to, during the stage *preceding* that of hepatization or solidification—the chest remaining still resonant on percussion—there could be heard neither a crepitant rhonchus nor the respiratory murmur.

I fear, however, that I have been unable to express my meaning more plainly than it appears in the sentence which I have here striven to elucidate; but, as I have not been understood, and as there may possibly exist others who may place the same construction on the sentence in question

that the author of the report has placed upon it, I deem it but proper that I should, at least, attempt an explanation.

Cases of Neuralgia. By ALBERT T. WHELOCK, M. D., Belfast, Maine. —The following case of neuralgia had been of four months' standing. The patient was a very intelligent female of the nervous temperament, delicate constitution, aged about twenty-three, had been married about two years, and had one child, which was healthy. The pain was paroxysmal, of a very severe kind, seated in the jaws and side of the face, recurring every day; but at no regular time during the day, sometimes coming on in the forenoon, sometimes in the afternoon, but rarely in the night. It had immediately followed the extraction of the second molar tooth in the lower jaw. The pains were of the most acute kind, lasting several minutes, so overcoming the patient that she would lose control of herself entirely. The disease was evidently affecting her general health; she became emaciated, and her features, which were regular and extremely beautiful, were becoming altered by the effects of it on the whole nervous system. The disease was in its full severity and apparently growing worse when she was put under medical treatment. She was now ordered a simple emetic of ipecacuanha, to be continued every day for ten days, to be taken every morning about ten o'clock, after a breakfast at seven of bread and butter only, without tea or coffee. The remainder of the day the meals were to be of the usual mixed diet, with the exception of tea and coffee. A teaspoonful of a mixture of equal parts of tincture of opium and alcohol was taken in a third of a tumblerful of water thickly sweetened with sugar, as soon as vomiting had ceased, and the same again about two hours after tea time. On the third and seventh days of the ten days, during which emetics were given, a large blister was applied over the spine between the shoulders. There was not any return of the pain after the treatment was commenced or after the first emetic. And although some months have elapsed, there has been no return of the disease. The bowels were somewhat costive during the treatment, but no cathartics were given, this circumstance being intentionally and entirely unattended to. The emetics vomited generally three and four times each.

December, 1847. Mrs. G., case of neuralgia of eight years' standing; age of patient thirty-five—no children. She had tried various remedies, such as blistering, tonics, division of the part of the facial nerve that seemed to be the seat of the trouble. The complaint was relieved at times under this treatment, apparently but not certainly so, as there had always been since the supervention of the disease, intervals of several weeks of entire freedom from it, when it would again recur daily. The pain was of the severest kind, disabling the patient from her usual domestic employment. The paroxysms generally lasted a considerable part of the day; these usually came on at periods of from one, two, or three days, to several weeks. She always felt the premonitory symptom of a kind of fullness about the head sometimes for twenty-four hours previous to the paroxysm. She called the complaint the nervous headache. It had remained about the same for several years without much treatment of any kind; when she was placed under my direction. She was ordered an emetic daily, to live on a vegetable diet, and to take after the vomiting and also at bed time a tablespoonful of a mixture of equal parts of tinct. opii, alcohol, mucilage gum acacia, and simple syrup. This treatment was pursued for fourteen days; it evidently broke up the paroxysms for the time, but a cure was

not effected. Owing to the discouragement of the patient, no other course of remedial measures was undertaken.

June, 1846. The following case had been one of some months' duration. The patient was a delicate female, of a pure healthy constitution, with much activity of mind and body; aged about twenty-six; had been married five years; no children. The pain came on usually about noon, of a severe kind, running up the side of the face, over the eyebrow, and to the nose. There never was more than one paroxysm in a day. She had been taking some of the vegetable tonics, with nourishing food and wine. She was now ordered an emetic of ipecac. every other day, to live on vegetable food, without tea or coffee. This was to be continued till she had taken eight emetics. The emetics were to be taken every morning two hours after a light breakfast, and at noon of each day two drachms of the following: R.—Tinct. opii, alcohol, mucilage gum acacia, aa ʒij. During the term of the time that emetics were taken, three blisters were applied to the spine between the shoulders at intervals of five days. She was of so unusual a delicate habit for this region of country, although apparently of perfect constitution and natural health, that we were obliged to suspend the emetics once or twice, as she was too severely prostrated to continue them rigorously. She has had no return of the disease since she commenced with the first emetic a, period now of two years. Owing to the confined state of the bowels from the use of the opiate, she took a Rochelle powder two or three times during the treatment. From the preceding accounts it would seem, that in the cases of short standing, we succeeded in breaking the chain of morbid action by a vigorous and systematic course of treatment.

Case of Enlarged Heart in an Infant. By M. R. TREVOR, M. D., of Alleghany city.

The child, the subject of the following remarks, was born on the 29th Feb. 1848, apparently healthy. Parents healthy, but with a hereditary scrofulous taint on the mother's side: all of her father's brothers and sisters having died of phthisis pulmonalis, and her father is at present strongly predisposed that way. On the 16th May, I was called in to see the child (then two and a half months old), on account of a *diminution* of the cry; no other symptom being observed, no treatment was adopted. On the 16th of June following, was called again to see the child on account of violent illness, which had commenced on the evening before. Parents state that since the 16th of May the child had continued well, except the diminished ability to cry, and a slight cough. Slept well in any position; nursed freely, and continued to grow strong and plump. *Symptoms*—commencing on the evening of the 15th and continuing till the evening of the 16th, when the case terminated:—Great difficulty of breathing, severe pain indicated by a suppressed cry with each expiration, most laborious and violent action of all the muscles of respiration; the diaphragm agitated more forcibly than in the severest hiccough; surface pale and cold; pulse could not be distinguished on account of the extreme restlessness; head thrown back, pupils contracted; general expression of eyes dull. *Auscultation*.—Respiration puerile, *loud* and *strong*, and even above this could be distinctly heard a bellows-sound accompanying each systole of the heart. There was no cessation or remission of these violent symptoms for nearly twenty-four hours, when the case terminated by exhaustion; child three and a half months old. *Post-mortem appearances*.—The left side of the chest slightly

elevated above the right. On opening the chest (with the assistance of Dr. T. H. Elliot, who had seen the case before death), we found the heart enormously enlarged. Hypertrophy with dilatation principally of the left side: the heart occupying nearly all of the left, and at least one-third of the right side of the chest. Walls of the left ventricle six lines thick. Largest circumference of heart circularly, eight inches six lines, largest circumference longitudinally eight inches five lines; valves healthy. Pericardium contained f $\frac{3}{4}$ i of serum. Left lung atrophied, occupying but a small space in the posterior part of the left side; middle lobe of right lung very much encroached upon by the heart. Substance of lungs healthy. Weight of heart not ascertained. Pericardium not adhering in any part. *Queries.* Was the disease congenital? If not, what could have produced it at so early an age? Why were there no other symptoms or disturbances of circulation and respiration until twenty-four hours before death?

DOMESTIC SUMMARY.

Typhus and Typhoid Fevers.—By JOSEPH M. SMITH, M. D., Prof. of Pract. Med. in Coll. Phys. and Surg., Chairman of Committee on Pract. Med. A. M. A.

Of all forms of infectious diseases, the one from which the greatest amount of mortality has occurred in most of the larger Atlantic cities of the North-eastern and Middle States, during the committee's term of service, is typhus, or, as it has been generally called, ship fever.

Though typhus is not perhaps as strictly entitled to the term epidemic as some other distempers, being never equally rife in the different classes of society, but mostly confined to persons dwelling in confined situations, in the midst of human filth, yet its prevalence is sometimes so extensive, and its diffusion so clearly owing to the agency of a peculiar atmospheric influence, that there is no sufficient reason for not considering it as occurring epidemically. That it conforms to the law of periodicity, which determines the recurrence and spread of certain other maladies, is shown by its history in various countries. Pursuant to that law, though it may never be absent from a city or district, it increases at times, and after raging for a season, declines like other epidemics. Dr. Alison says, in speaking of the contagious fever of Edinburgh, that "there have been three great epidemics of that disease in the last twenty-two years, beginning in 1817, 1826, and 1836, (the last of which has now nearly subsided,) each lasting nearly three years, and each of the last two affecting, he believes, nearly ten thousand persons."* Of the typhus of Glasgow, Dr. Davidson remarks "that a severe epidemic of one or two years' duration is never succeeded by another until several years have elapsed."† Similar facts illustrate the epidemic character of typhus in other European cities.

On examining the records of deaths from typhus‡ for the last thirty-five years in the city of New York, it is found that the disease was epidemic in that period four times, viz: in 1818, 1827–28, 1837, and 1846–47. In these years the increase of the disease was so remarkable, that there is no hesitation in pronouncing them epidemic typhus periods. The fact now referred to was strikingly exemplified in 1837. In that year the mortality from typhus was 338, while that of the preceding year was but 117, and that of the following only 104. From this time, though the amount of mortality annually varied, there was no notable increase of deaths from typhus until 1846, when the number rose to 256; and the disease continuing to prevail and with increasing severity, the deaths in 1847 reached the frightful sum of 1396, to which should be added very many of 657

* British and Foreign Medical Review, No. xxi. p. 27.

† Thackeray, Prize Essay, p. 55.

‡ In enumerating the deaths from typhus, we include the deaths from what is called in the bills of mortality *typhoid fever*.

deaths from dysentery, a disease which, in a large proportion of the cases in the hospitals, was typhus fever.

The foregoing facts fully warrant the inference that the diffusion of typhus is favoured by a peculiar aerial influence which occurs periodically. Such an influence is sometimes very widely extended. It is said by Barker and Cheyne, in speaking of the epidemic typhus period of 1817-18, as quoted by Dr. Davidson,* that "it must be acknowledged that the simultaneous increase of the disease in Ireland, and on the Continent, leads to the inference, that whatever may have been its origin, an epidemic constitution prevailed over a great part of Europe during a series of years past." Now such an epidemic constitution has manifestly prevailed over the British Isles during the years 1846-47; and its influence, in its western direction, appears to have extended across the Atlantic ocean to the shores of our North-eastern States and the adjacent British Provinces.

But coincident with this wide-spread epidemic meteoration, were other causes more immediately influential in predisposing to typhus on both sides of the Atlantic. The more efficient of these causes, especially in Ireland, were famine and the evils, physical and moral, attendant upon it. Whilst starvation and disease were destroying thousands of the poor in that ill-fated land, multitudes of them, to escape from calamities so fearful, sought to ameliorate their condition by a removal to this continent. In no annual period in the history of emigration, has the number of foreigners, added to our population, equaled that of the last year. It has been estimated that about a quarter of a million of emigrants arrived in the United States in 1847.† Of this number, 160,134 landed at New York, and the remainder mostly at Boston, Philadelphia, Baltimore, and New Orleans. Thousands also entered our country by the way of Canada and New Brunswick. A very large majority of those who landed at New York were Germans and Irish. It is stated by the New York Commissioners of emigration, that of the 129,062 passengers arrived at that port, from May 5th to December 31st, 1847, 53,180 were from Germany, and 52,946 from Ireland, thus showing that the emigration from the former country exceeded that from the latter.

The condition of the German and Irish emigrants prior to their embarkation, and during their transit of the ocean, was in most instances conspicuously different. Whilst the former were generally robust, and well provided on the passage with the means of subsistence, and observant of cleanliness and ventilation,—the latter were in most cases enfeebled from the want of sustenance, and on ship-board, destitute of supplies of wholesome food, depressed in mind, clothed in filthy garments, and crowded and confined in air rendered pestiferous by the excrementitious matters eliminated from their own bodies. In contrasting the hygienic circumstances in which the two classes of emigrants were placed, it is easy to account for the greater amount of sickness and mortality which occurred in one class than in the other. It is said, that of the admissions of emigrants into the hospitals and almshouse of New York, the Irish exceeded the German in the proportion of about one to nine or ten; and we are told, that the Irish in British ships suffered more than those in American.

The amount of disease and number of deaths which occurred in emigrant ships, while crossing the Atlantic, are appalling to contemplate. Many thousands perished on the voyage to the United States and Canada. In some ships bound to New York, from 20 to 30 died on the passage; and in many vessels destined to Canada, the deaths were from 30 to upwards of 100. From one ship, the *Virginia*, bound from Liverpool to Quebec, with 470 passengers, 158 of the number were buried at sea.

The Montreal Immigrant Committee, in their report for 1847, state, that "in no year since the conquest has Canada presented such fearful scenes of destitution and suffering." "The year 1847 has been unparalleled for the amount of immigration to Canada; near 100,000 souls have left the British isles for these provinces the past year,—over 5,000 of these died on their passage out, 3,389 at Grosse Isle,

* Thackeray, Prize Essay.

† It appears from the report of the Secretary of State to the House of Representatives, that the whole number of passengers who arrived in the United States during the year ending Sept. 30th, 1847, was 239,480.

1,137 at Quebec, 3,862 at Montreal, 130 at Lachine, and 39 at St. Johns, making in all at these several places 13,815. How many have died in other sections in Canada East cannot now be known, nor, indeed, how many have perished in Canada West; but coupling all those who have perished with those who have passed into the United States, Canada cannot now number 50,000 souls of the 90 odd thousands which landed upon our shores." In sketching a retrospect of these terrific scenes, the Montreal committee forcibly remark—"From Grosse Isle, the great charnel house for victimized humanity, up to Port Sarnia—along the borders of our magnificent river, upon the shores of Lakes Ontario and Erie, and wherever the tide of immigration has extended, are to be found the final resting-places of the sons and daughters of Erin—one unbroken chain of graves, where repose fathers and mothers, sisters and brothers, in one commingled heap, without a tear bedewing the soil, or stone to mark the spot. Twenty thousand and upward have gone to their graves, and the whole appears, to one not immediately interested, 'like a tale that is told.'"

The disease of which the emigrant passengers, and in many instances, the officers and crews of ships, perished at sea, and of which a great number were ill on their arrival in the United States and Canada, was typhus in its genuine form. In some ships dysentery, small-pox and measles swelled the amount of mortality, and added to the number of sick that reached the ports of destination. From some ships upwards of 100 ill were landed at the New York quarantine station; and so great was the influx of sick and destitute emigrants, during the summer of the last year, that the public and private hospitals and almshouse were filled to overflowing, and sheds and tents were erected for their accommodation. In stating these things we cannot withhold the grateful remark that, in providing these accommodations, and furnishing other means of comfort, the same spirit of benevolence was manifested, which animated our countrymen in sending ships laden with supplies of food to the famishing in Ireland.

The number of persons admitted into the marine hospital at Staten Island, in the year 1847, was 6,932. Of this number, 5,277 were sick with fever, and 662 died. In that hospital, 2,229 cases were registered as typhus fever, of which 457 died, and 3,020 as remittent and typhus remittent fever, of which 205 died. There is reason to believe that many of these latter cases, landed from emigrant ships, were typhus; but excluding these, the total number of deaths from typhus at the quarantine hospital and within the city of New York, was scarcely less than 2,000.

But besides those admitted into the hospitals immediately after their arrival, or who sickened in the city and were sent to the hospitals, there were many who became victims of the disease at places, more or less distant, in the countries over which they were dispersed.

The effect of introducing so great a multitude of persons affected with typhus, or imbued with the *fomes* of the disease, into the midst of the resident population, could not be otherwise than to excite alarm, and, in fact, to extend the disease. Wherever the emigrant sick were congregated in masses, or collected in small numbers, or wherever individual cases were confined in small, unclean, and ill-ventilated apartments, the disease frequently attacked those who were in constant or occasional communication with them. From such communications nurses, physicians, friends, and transient visitors to the sick, have suffered in numerous instances. Of the medical officers in the New York and neighbouring hospitals and almshouses, not less than eight, mostly in the vigour of early manhood, and while engaged in active duties, giving promise of future distinction in the ranks of the profession, have, during the epidemic, been numbered with the dead.*

But though the disease amongst residents has, in most instances, been traceable to exposure to the poison emanating from the persons and effects of emigrants, there is reason to believe that it has, in some instances, originated *de novo* in the close

* Dr. Harrison states that, "with regard to the ship fever at New Orleans, it has not been complicated with or modified in any way by the yellow fever. It has been entirely confined to the hospitals, no persons that I have heard of being attacked out of doors. Several of the visiting physicians, Sisters of Charity, students, and others of the Charity Hospital, have been attacked, and some have died; but the disease has been confined to the cases I have now mentioned."

and sordid dwellings of the poor in our large sea-port towns; and that the mortality from the disease has been augmented from such sources. This statement derives support from the circumstance, that the diseases prevalent in our northern Atlantic cities for the last two or three years, and especially in New York, have manifested a decided adynamic diathesis, a circumstance indicating, it is believed, the existence of a meteorations influence, which not only develops a predisposition to typhus, but favours the production of the poison of the disease.

As to the mode in which the late typhus, or ship fever, has been propagated, the committee are not disposed to enter into an elaborate disquisition. The question whether typhus is diffused by a specific contagious principle, or by a vitiated human effluvium, may be regarded as theoretical, and therefore affords grounds for a diversity of opinion. The fact that patients affected with the disease, in certain conditions, are *foci* of the typhus poison, must be granted by all observers. But the admission of this fact does not necessarily impose the obligation to consider the poison a specific *virus*, analogous in its origin and distinctive properties to that of small-pox or measles; and that it is not so, is the view taken of it in this report. As here contemplated, it is the product of the chemical changes which take place in the excretions or *debris* of the body in health and disease, accumulated in close apartments,—a poison more frequently and readily generated by the exhalations and other excretive matters of typhus patients, than by those of persons suffering under other forms of the disease, or in the state of health,—a subtle æriform principle, appropriately denominated *idio-miasma*, one of the generic forms of infection; and hence, typhus, instead of being classed among the *contagious* epidemics, is arranged among the *infectious*. In this theory is found a ready explanation of the origin and prevalence of typhus in jails, hospitals, ships, and the houses of the poor; and, also, of the mode in which cleanliness and ventilation arrest and exterminate the disease. These hygienic means, so effective against the general propagation of the disease in the upper classes of society, seem clearly to intimate the true nature and source of the typhus poison.

So entirely were the symptoms and course of the ship fever, as it occurred in New York, correspondent with the descriptions given of typhus in the standard works on Practical Medicine, that nothing in detail need be said in respect to them. It is sufficient to observe, that among the emigrants the malady was marked by great prostration at an early period of its development, requiring liberal administrations of the most efficient means of stimulation and support. Petechiæ were more general than in some former years. Though sometimes running to a fatal issue under a simple form, the disease, in its graver varieties, was generally attended with cerebral, thoracic, or abdominal complications. Erysipelas, often assuming a phlegmonous character, occurred in many cases, and frequently resulted in extensive sero-purulent deposits. Fluid collections of this kind were most common in the parotid glands, eyelids, and scalp. Secondary attacks happened in a few instances; and among the sequelæ was noticed an affection of the eyes of an amaurotic form.

As to the rate of mortality among the sick in the various hospitals of the United States and of Canada, there has been a great disparity; the differences depending on circumstances, in many cases, beyond the reach of control. In the New York hospital, as it is stated in the last annual report of the governors of that institution, "the number of typhus fever cases treated during the year, was 1,034; very many of them cases of the severest form of the disease, and demanding far more than the ordinary assistance of physicians and nurses. Of this number 136, or a little more than thirteen in the hundred, have died. This result, though it appears to be a large proportion, bears a very favourable comparison with the statistics of any other sanitary establishment under similar circumstances of disease, and affords a very striking contrast to the terrible mortality from the same cause among the recent emigrants from Europe in other parts of the continent." But though the amount of mortality has been influenced by the circumstances in which the sick in hospitals were placed, it is to be noticed that the proportion of deaths has been greater among those in the higher than among those in the lower ranks of life, a fact generally observed in the typhus epidemics of Europe.

With these remarks on the typhus or ship fever of the last year, we might close

our report, were it not that a question of more than ordinary interest, relating to this subject, demands from us a careful examination,—a question on which the profession in this country and in Europe are divided, and which, it is thought, the phenomena of the recent typhus epidemic, added to the facts afforded by former prevalences of the disease, have largely contributed to elucidate. It needs hardly to be stated that we refer to the question of the identity or non-identity of *typhus*, and a form of disease entitled *typhoid fever*. That there are two forms of fever, bearing these names, which closely resemble each other, and yet which are essentially distinct in their nature, is alleged by some of the most renowned pathologists of the age. The leading distinctive features of the two diseases are, it is affirmed, intumescence and generally ulceration of Peyer's glands, and certain other morbid conditions, in one of them, and the total absence of these phenomena in the other.

Now if, in fact, two such diseases exist in nature, the committee, in what they have submitted concerning epidemic typhus, have omitted to distinguish them, or, in other words, have committed an error in confounding distempers specifically dissimilar; for everywhere have the two forms of disease been associated and looked upon as one and the same malady. The attempt to rectify such an error, if such have been made, would involve the necessity of giving the history of two epidemics, occurring coterminously in the same localities, one to bear the title of *typhus*, and the other of *typhoid fever*, and of sustaining the distinction between them,—a labour not achievable in the hands of your committee.

But it is believed that no such distinctive disorders can be recognized in nature; that the two forms of disease have not respectively a development which is peculiar or *sui generis*; that the disorders in question do not, as distinct specific affections, occur promiscuously, or side by side, in the same circumstances, from the same causes, among the same class of persons, in the same hospitals, ships, jails, and private dwellings of the poor. The grounds on which we venture to express these opinions we beg leave respectfully to state to the Association; and we do this with the more freedom, as the question of the identity or non-identity of typhus and typhoid fever should and will continue to attract attention until a unanimity in regard to it is attained among the great body of enlightened physicians.

As the two forms of disease in question are fevers, and as the problem to be solved is, whether they are, or are not, one and the same malady, it will not be improper to glance at the means by which fevers are distinguished. It is much to be deplored that the distempers comprised in the class *febres* have not been more perfectly disentangled, and their specific relations to one another definitively settled. That this has not been done, is owing, not to any want of labour or talent devoted to the work, but to the difficulties and obscurities inherent in the subject.

The means of diagnosis in fevers are threefold; 1st, their efficient causes; 2dly, their symptoms; and 3dly, the alterations produced in the organism discovered after death.

In regard to the efficient causes of fevers, it is evident that a knowledge of them, for the purposes of diagnosis, is of the highest value; for were they in all cases ascertainable, they would furnish not only a ready and correct diagnosis, but a solid basis on which to rest a natural classification of fevers.

In respect to the symptoms, in the absence of a knowledge of the causes of fevers, it is clear that they are the only means by which, during life, one kind of fever can be distinguished from another. But in forming a diagnosis by these means, the mode of proceeding is in some respects peculiar. Whilst the acute phlegmasiæ and most other violent local diseases are generally cognizable, by their rational and physical phenomena, immediately, or at an early period after their development, it is frequently otherwise in the case of essential fevers. These diseases are not so commonly distinguishable at first sight. In order to collect the facts from which their differential diagnosis may be deduced, it is often necessary to observe them carefully, sometimes in more than single cases, during the space of several successive days. Moreover in the phlegmasiæ, the diagnostic phenomena are for the most part local, being confined to the organs immediately affected. In fevers it is not so; the diagnostic signs are spread throughout the *economy*, and are slowly and successively developed, and not until a certain

number or variety of them have come fully into view, can a specific fever be recognized.

Of the anatomical alterations produced by fevers, it may be said that such of them as occur in the internal organs, and which are discoverable only after death, have no absolute claim to the character of diagnostic phenomena, since none of them are invariably present in the same specific fever, and many of them are found in different kinds of fever. There are, however, in some fevers, certain alterations in the organism so frequently revealed by autopsic examinations, that they may not improperly be admitted among the accessory means of diagnosis, especially in cases in which neither the causes nor the symptoms during life are sufficient to elucidate their distinctive nature.

From these general observations, we proceed to the question of the identity or non-identity of typhus and typhoid fever. And in doing so, leaving out of view for the present the history of their causes, we shall inquire:

1st. Whether these diseases differ so much in their symptomatology as to enable us to characterize them as distinct distempers?

2dly. Whether the morbid anatomy, and particularly the intestinal follicular lesions observed after death, indicate the diseases to be specifically different?

1. *Of the Symptomatology of Typhus and Typhoid Fever.*—In essential fevers there are a few symptoms which are common to them all; and to these symptoms are added, in particular fevers, certain phenomena which arise in the progress of the morbid movements that mark their special form and character. Now among the leading symptoms, mostly of the latter description, observable in typhus and typhoid fever, are the following: great prostration of the sensorial and muscular energies, cephalalgia, disagreeable dreams, somnolence, delirium, coma-vigil, deafness, aphonia, stupor, subsultus tendinum, picking of the bedclothes, and at imaginary objects in the air, small, frequent and feeble pulse, pungent heat of skin, petechial eruptions, sudamina, dry and brown or black fur on the tongue, accumulations of dark sordes on the teeth and gums, epigastric pain, tenderness of the abdomen, gurgling in the intestines, diarrhœa, meteorism, hemorrhage from the nose and bowels, and retention of urine.

Though such are the phenomena which occur in typhus and typhoid fever, yet all of them may not present themselves in every case; but it is observable that many of them, and especially those attendant on the last stage of fatal cases, are developed consecutively and in various degrees of force, in every individual example of both diseases.

Now it is among the phenomena enumerated, that we must seek for the diagnostic symptoms of the two diseases, if any such phenomena exist. If the diseases be specifically different, they should respectively present certain pathognomonic or characteristic symptoms. If they possess no such symptoms, nor any other diagnostic phenomena, they are obviously not distinct disorders. But let us examine the symptoms with a view to ascertain how far they indicate diseases different in their nature.

It is generally admitted that there is much variety in the symptoms of the premonitory and successive stages of typhus; and a similar variety, it is acknowledged, occurs in the corresponding stages of what is called typhoid fever. The incipient symptoms are often, for the most part, precisely the same in both maladies; and in whatever subsequent parallel stages we examine the two disorders, we find no signs by which to distinguish them as different *species* of fever. If in the several periods or stages of typhus we observe particular combinations of symptoms, we find the same combinations in the several periods of typhoid fever. Phenomena, which are usually present in typhus, are sometimes absent, or but slightly developed; and the same is true in typhoid fever. The constitutional phenomena in the latter disease are grouped, and transformed in the same manner as are those which occur in the former. So far then as the general symptomatology of these diseases enables us to form a judgment, they are essentially the same. This conclusion, it is believed, might be sustained by an appeal to numerous cases recorded as genuine examples of typhus and typhoid fever.

The phenomena on which the advocates for the distinctive nature of typhoid fever mainly rely in forming their diagnosis, are, it appears to us, totally insufficient to establish the *specific* character of the disease. The more important of these

phenomena are lenticular rose-coloured spots on the trunk, chiefly on the anterior part of the abdomen and chest, sudamina, gurgling in the right iliac region, tenderness of the abdomen, diarrhœa, meteorism, enlargement of the spleen and epistaxis. But which of these phenomena does not occur in typhus? In regard to the size, colour, situation, and time of appearance of the eruption, there is nothing remarkable in the one disease which is not equally so in the other. The eruption in typhus, though among the characteristics of the disorder, is variable in size and colour; sometimes it is of a rose hue, but frequently violet or purple, at one time persistent under pressure, and at another evanescent. Such were the varieties of the eruption in the cases of typhus, treated under the direction of one of your committee, in the New York Hospital in June, 1840, and at various times in subsequent years,—cases of the identical nature of which there was not the slightest doubt, all of them having originated from the same source; namely, the fever poison *idio-miasma*, generated in crowded emigrant ships. In no respect did the eruption differ essentially from that which occurs in dothineritis or typhoid fever. As to sudamina, they are common to various states and kinds of disease.

It is well known that age, constitution and modes of life, climate, season, and especially epidemic influences exert a powerful agency in modifying the symptoms of diseases; and there is good reason to believe that to such causes, the varying forms and character of the eruptions in essential fevers are in a great degree attributable. In some seasons the eruption in typhus is absent in very many cases; and moreover, it is sometimes wanting in cases in which the Peyerian glands are extensively diseased. Dr. Elliott, one of the physicians of the Bellevue Hospital, reports an instance in which "Peyer's plates were much enlarged and deeply ulcerated," and in which "there was no eruption, nor any diarrhœa, during the whole progress of the case."* Are not the rose-coloured spots of typhoid fever the primary forms or conditions of the petechiæ or maculæ of typhus? Professor Clark, one of the physicians of the hospital just named, says, that "in the proportion of about one-half of the typhus fever patients, a *rose-coloured* eruption occurs on the body, which frequently in the progress of the fever assumes a petechial appearance.† To elevate the shades of colour, and the varieties of form of the eruption to the rank of diagnostic phenomena, indicative of distinct diseases, when the more striking and important phenomena are unequivocally expressive of an identity of disease, is a refinement which, it appears to us, no clinical observer can regard with favour.

Nor are the diarrhœa and gurgling in the right iliac region worthy of consideration, as signs by which the affection called typhoid fever may be distinguished as a specific disease, or one different from typhus. These phenomena occur in cases in which the general symptoms of the two forms of disease, arising from disturbance of the nervous, vascular, and secretory functions, are the same, and which therefore indicate the affections to be one and the same. Gurgling in the bowels is common to many diseases; and as to diarrhœa it frequently occurs in fevers in which there is no follicular disorder of the intestines; and though it is generally present in dothineritis, it is sometimes absent. Dr. Swett, late President of the New York Medical and Surgical Society, so well known for his devotion to pathological studies, in discoursing on the cases of ship fever, treated at the New York Hospital, at a meeting of that society on May 1st, 1847, stated that "in the case in which the ulceration was most extensive, there had been no diarrhœa; in the other case with ulceration less in amount, though still considerable, the diarrhœa had been profuse."‡ Similar remarks are applicable to the meteorism and tenderness of the bowels; they frequently occur in disorders different in their character, and are occasionally wanting in typhus and typhoid fever. With respect to epistaxis and delirium, they are totally destitute of any claim to the character of signs denoting a specific difference between the two forms of disease in question.

But though the rose-coloured spots, the diarrhœa, and gurgling in the bowels, the meteorism, tenderness of the abdomen, epistaxis, and delirium, taken seve-

* *Annalist*, vol. ii. p. 249; edited by William C. Roberts, M. D., New York.

† *Transactions of the Medical Society of the State of New York*, vol. vii. p. 59, 1848.

‡ *Annalist*, vol. i. p. 389.

rally, or any two or three of these phenomena combined, do not enable us to distinguish typhus fever from the typhoid affection of Louis, still, it may be asked, do they not, when collectively present, that is, when grouped together in the same case, indicate these diseases to be essentially different? In regard to this question, it is to be observed, that, in discriminating fevers, the ablest clinical physicians place more reliance upon the uniform constitutional phenomena, as manifested in the morbid conditions of the nervous, vascular, and secretory organs, than upon those phenomena which are local and contingent. The former are esteemed the efficient, and the latter the accessory means of diagnosis. Are not intermittent and remittent fevers known and distinguished by their types and general phenomena, and particularly by the modes in which the phenomena are combined or succeed each other? In these forms of fever there is often inflammation or engorgement of particular organs, and yet, notwithstanding such complications, each of these diseases is readily recognized and distinguished. Even in yellow fever, the course and form of the general symptoms, springing from derangement of the nervous and vascular systems, are vastly more important as indications of the specific nature and distinctive character of the disease, than the symptoms immediately connected with the gastro-intestinal lesions. These latter, it is true, are sometimes valuable subsidiary means of diagnosis; and, indeed, are occasionally essential aids in deciding in doubtful cases; but, aside from the general phenomena, they would scarcely suggest the idea of yellow fever; whereas, the constitutional symptoms are, of themselves, sufficient, especially when the disease is epidemic, to show the true character of the malady. The same remarks, in regard to the symptoms depending on special organic lesions, are applicable to every other essential fever. In the contagious exanthemata it is otherwise. In these, the eruption is, with very few or no exceptions, a constant occurrence, and is therefore regarded as one of their leading diagnostic phenomena.

Now if we examine the phenomena of typhus as described by English writers, and compare them with those of typhoid fever as described by M. Louis and others, are we not warranted in giving to the general symptoms a higher value as diagnostics of the special nature of these diseases, than to those which indicate an affection of the glands of Peyer? Is not typhus distinguished in all cases by the character and train of the general symptoms, rather than by any disturbance of the abdominal organs, indicated by tenderness under pressure, diarrhœa, gurgling in the right iliac region and meteorism? And is not the same true of typhoid fever? That such is the fact, in respect to the latter disease, there can be no question; for Louis and others have recorded cases as typhoid fever in which the symptoms of follicular disease of the bowels were obscure or not conspicuous.

Idiopathic fevers, then, are distinguished by the kind and character of their general symptoms, and by the mode in which these are grouped and successively developed. In comparing fevers with one another, the order of the occurrence, as well as the peculiarity of all the phenomena, should be observed. When this is carefully done, there is generally no difficulty in discriminating particular fevers. All cases of fever are to be considered of the same nature in which the constitutional symptoms occur in the same order, and agree in their general features. The local, contingent, and minor symptoms, as well as the variations in the mode of attack, violence and duration of the morbid phenomena, indicate modifications of the disease, and nothing more. A physician practically versed in the diagnosis of fevers, on visiting the wards of a hospital in which the various species of essential fevers are assembled, will distinguish each particular kind of fever, not by tenderness of the abdomen, gurgling in the bowels, diarrhœa, and epistaxis—for these phenomena may or may not be present in fevers unlike each other—he will found his diagnosis on the type, and general course and peculiarity of the phenomena manifested in the nervous, vascular, and secretory functions. In individual cases, in which the type and characteristic symptoms of a special form of fever are not as fully and clearly developed as is necessary to settle the diagnosis, he will await their occurrence, inquire into the etiology of the disease, and avail himself of the light thrown on the nature of the malady by the occasional or contingent symptoms. Thus, in yellow fever—a disease usually well marked and distinguishable by a train of general symptoms, cases occur in respect to

which a doubt may exist as to their true nature, until the appearance of black vomit, an event in itself of no value as a diagnostic of a specific form of fever, except when it concurs with certain diagnostics presented by the general system.

Now in typhus and the typhoid fever of Louis, the morbid phenomena are so correspondent in the sensorial, vascular and other functions, and are so similarly catenated or related to one another from their accession to their termination, that the attempt to assort and group them, so as to make them express two different diseases, is a labour which, it appears to us, must fail to show any distinction which is found in nature and cognizable by practical minds.

If such be a just view of the subject, in what light are we to regard the phenomena considered by Louis and others, as establishing a specific difference between the two forms of disease in question? To say nothing of the rose-coloured spots, delirium and epistaxis, are not the meteorism, tenderness of the abdomen, gurgling in the intestines and diarrhœa, occurring in fever, simply indicative of abdominal derangement, in the same manner as cough, expectoration, and certain auscultatory signs denote a pulmonary complication, or as injection of the adnata, intolerance of light, headache and delirium, show encephalic disorder? The principal anatomical lesions in typhus are found in the three great cavities; and there are no reasons that would warrant the forming of a special disease of those cases in which abdominal symptoms are prominently developed, which would not equally justify the creation of new diseases of cases in which pneumonic and cerebral symptoms are predominant. If the term *abdominal* typhus, applied by the German physicians to dothineritis, be appropriate, it may not be improper to apply the terms *thoracic* and *cerebral* typhus to those varieties of the disease in which the lungs and brain are the organs that chiefly suffer organic changes. These terms, so used, import special complications of typhus, but not distinct diseases.

That every case described by Louis as typhoid fever was genuine typhus is, perhaps, doubtful; but that most of his cases in which he found, after death, follicular ulceration of the bowels were not that disease, he has, we think, failed to show by any diagnostic phenomena. Had no autopsies been made, the cases would have been considered, by every pathologist, as simple modifications of the typhus of England and other countries. In searching for novelties in pathological anatomy, it should be borne in mind that the evidence for and against the theory of the essential nature of fever vastly preponderates on the side of the former; and, consequently, all anatomical lesions are to be considered contingent or secondary. The anatomical alterations in typhus and other kinds of fever sometimes vary so much in different cases, that were one called upon to decide on the nature of the disease in a particular case, by inspection of the body after death, it would frequently be difficult, and sometimes impossible, to say of what *species* of fever the patient died. Now such an embarrassment, in forming a diagnosis, rarely occurs in cases in which the symptoms, during the normal course of the disease, are carefully observed. In the phlegmasiæ proper, a post-mortem diagnosis is, in general, not left in doubt, but is promptly and certainly attained.

Upon the whole, it seems to us, that the ingenious attempts which have been made to establish a specific distinction between typhus and typhoid fever, by an analysis of the *symptoms*, have yielded no other profitable result than a lucid exhibition of the modifications which genuine typhus assumes under different circumstances of temperament, habits and mode of life, climate, &c. In no other light can we regard the able researches on the subject by Louis and numerous other pathologists in Europe and America.

2. *Of the Morbid Anatomy of Typhus and Typhoid Fever.*—As, then, the *vital phenomena*, observed during the progress of the two forms of disease in question, lead to the conclusion that they are not specifically distinct in their nature, it seems that the opinion that they are so, has arisen from the discovery of dothineritic lesions in one form of the malady and not in the other. The theory which localizes the cause of fever in the stomach and intestines, so fashionable in the last thirty years, is obviously the source to which may be traced the distinction which is made between typhus and typhoid fever. Stated in a brief form, the theory, in relation to these diseases, is explicitly this: a fever with ataxic or adynamic symptoms in which the glands of Peyer and Brunner are tumefied and ulcerated

is typhoid fever; and that a fever attended with similar constitutional phenomena, and in which those glands are not diseased, is not typhoid, but some other species of fever. That Louis employs the fact of the non-existence of dothineritic lesions in febrile cases, to prove that the disease is not typhoid fever, is shown in his work on yellow fever, in giving the diagnosis of which he specially distinguishes the two diseases anatomically, by the normal condition of the intestinal glands in one of them, and the constant alteration of them in the other.

That there is a great and fundamental error in the doctrine which makes a specific difference between the diseases to which our inquiries relate, may, we think, be shown by adverting to a few of the anatomical facts and general arguments which bear directly on the subject.

If a diseased state of the agminated and isolated glands of the bowels constitute the peculiar and essential *anatomical character* of typhoid fever, then certain other maladies considered by every observer as different in their nature, should be regarded as identical with that disease; for there is abundant evidence to show that in many instances of the disorders referred to, those glands are inflamed, tumefied or ulcerated.

It must here be noticed that by the term *anatomical character* of a disease is meant, according to Louis, a morbid condition of organic lesion which invariably occurs in the same disease, and which, with certain other phenomena, distinguishes the disease from all others. Thus, in speaking of yellow fever, he says: "The red or black matter found in the stomach and intestines, not having been found *in all the cases*, it cannot be considered an *anatomical character* of that disease." But he adds, "it is not so with the alteration of the liver, which was more or less exactly the same *in all the cases*, and which for *that reason* ought to be considered as the *essential anatomical character* of the yellow fever of Gibraltar of 1828."

Now, if we use the term *anatomical character* in the rigorous sense in which it is employed by Louis, are we not bound to consider every fever in which Peyer's glands are diseased or ulcerated as typhoid fever? No special form of lesion of the intestinal glands, analogous to the special form of lesion of the skin in small-pox, is described as distinctive of the typhoid affection, for every morbid condition of them, except perhaps the tuberculous, is recognized in the disease.

The truth is, disease of the glands of Peyer and Brunner is, in none of its forms, in the strict sense of Louis, an anatomical character of any one species of fever. It occurs in disorders unlike in their causes, and dissimilar in their character. It occurs occasionally in the different kinds of *koino-miasmatic* fevers, and also, now and then, in the contagious exanthemata. It occurs especially and most frequently in *idio-miasmatic* or genuine typhus, and in febrile maladies which, in their progress, become adynamic, or, as it is usually and properly said, *typhoid*. It occurs more generally in typhus, in some years, and in some localities and countries than in others; and when it occurs it is an effect or complication, and not the cause of the febrile disturbance of the system.

If these statements be correct, and that they are so, might, we think, be established by abundant testimony, there are no solid reasons for considering the affection of Peyer's glands a feature distinguishing the typhoid fever of Louis from the typhus of England and other countries. We have already shown that these diseases are so similar in their symptoms, that they cannot by these means be rationally characterized as different species. Whatever variety of forms they exhibit in their general or local phenomena, they scarcely ever fail to manifest a unity of type and character; and consequently they should be regarded as the same disease. Indeed, as we have said before, were it not that post-mortem examinations had revealed a lesion of Peyer's glands, there never would have been a question as to their identity.

With all the light which modern pathological anatomy has shed on the nature and complications of fever, and with all the aid afforded by researches directed to the elucidation of the connections between the symptoms of fevers, and the structural alterations which occur in this class of diseases, can it be determined with a degree of certainty, approaching the exactness with which we are able to announce the existence of a pulmonary or cerebral complication, that the glands of Peyer are diseased in a given case of fever? A high degree of probability

that they are affected may be inferred from particular symptoms; but after all, nothing but an autopsy can establish the fact.

That dothinenenteritis occurs in genuine typhus is proved by the concurrent testimony of many physicians, who have enjoyed the most extensive opportunities of studying the disease, in all its forms and varieties of complication, and whose learning and talent for observation entitle their opinions to implicit confidence. While, on the one hand, it is shown by their inquiries that the intestinal glands are frequently affected in typhus, it is, on the other, demonstrated that in the form of fever denominated typhoid, the follicular disease of the bowels is sometimes wanting. To cite all the proofs which might be adduced in support of these remarks, would require wider limits than the present occasion affords. The statement of a few facts, bearing on the points in question, will sustain what a greater number could not render more evident. And first, let us advert to the evidence of some European authorities.

In no country is typhus more prevalent than in Ireland. The disease is there seen in all its varieties, symptomatic and anatomical; and it is to the enlightened physicians of that country that we are indebted for much valuable information in relation to the nature of the disease. Dr. Kennedy, in giving an account of the typhus which prevailed in Dublin in 1837-38, says: "The only post-mortem appearance that was at all constant, was congestion of the vessels of the membranes of the brain."—"But if this epidemic typhus was not characterized by any uniform or constant pathological changes, it was very remarkable for the almost total absence of those abdominal lesions which have been regarded by some as the invariable attendants of typhus fever. Indeed, in this respect, this epidemic affords a striking and conclusive refutation of the false and hasty generalizations of the French pathologists on this subject. In this respect, also, it differs altogether from the epidemic fever of 1826, (which the writer had an ample opportunity of investigating while in charge of fever patients, supported at the expense of the government, at the Meath Hospital that year,) in which, in a *large proportion* of the post-mortem examinations made by him, more or less disease of the glands of Peyer was found."* The typhus epidemics here brought into contrast by Dr. Kennedy, happily illustrate a well-known law of epidemics, namely, that the same popular disease varies in its form and anatomical lesions in different years and seasons. There can be no question that the two epidemics of which he speaks were essentially the same in their nature, and the difference in the condition of the intestinal canal in the two epidemics was incidental, certain influences in 1826 operating to produce "in a large proportion" of the cases, "more or less disease of the glands of Peyer;" whereas, in 1837-38, the analogous modifying influences occasioned scarcely any organic changes in the bowels, but chiefly a different complication, "a congestion of the vessels of the membranes of the brain."

Dr. M'Cormac, of Belfast, who evinces in his work on fever great familiarity with the diseases of Ireland, after minutely describing the various changes which take place in the aggregated and solitary follicles of the intestines, remarks: "This exanthem, if we may call it so, does not present the regular phases seen in small-pox; it may exist during the greater portion of the disease, and even after the fever has terminated." And he adds, "after what I have said, I need hardly repeat again, that together with its results, it is only an occasional contingency in fever, and seemingly more frequent on the continent than in this country—from what cause, however, if it be this, I do not pretend to say."

Dr. Stokes, of Dublin, than whom there are few physicians more capable of arriving at correct conclusions on pathological subjects, regards "typhus as an essential fever which affects in an especial manner in different cases, and during *different epidemics*, either the head, the chest, or the abdomen." He alleges that "the ulcerations of the intestines so much insisted upon by the French pathologists, are neither of constant occurrence, nor are they characteristic of the disease; in one epidemic they are found on dissection, much more frequently than in another."†

* Medical Report of the House of Recovery and Fever Hospital, Cork street, Dublin. By G. A. Kennedy, A. M., M. D., Dublin, 1839.

† Medico-Chirurgical Review, No. 81, p. 71.

Dr. Graves, the able colleague of Dr. Stokes at the Meath Hospital, entertains the same view of the nature of typhus.

In accordance with these opinions, are the extensive observations made in England, recorded in the writings of Drs. Hewet, Tweedie, Copland, Southwood Smith, Marshall Hall, and others. All these concur that the glands of Peyer are frequently the seat of anatomical changes in typhus.

Similar investigations in Scotland have established the same facts in regard to the pathological anatomy of the disease in that country. Dr. Davidson, in his Thackeray Prize Essay on typhus fever, gives a table showing the number and kinds of lesions observed in the post-mortem examinations of sixty-three eruptive cases admitted into the Glasgow Fever Hospital, from May 1st to November 1st, 1839, from which it appears that enlargement of Peyer's glands and ulceration of the intestines were present in many cases.

These are but a few of the evidences of the occurrence of dothinerteric lesions in the typhus of Great Britain and Ireland. But it may be said that the pathologists of these countries confound diseases which are specifically different; and that this is owing to their mode of studying the phenomena not being so minute and philosophical as the method pursued by the physicians of France. If the French make distinctions where the English do not, are we to accord to the former superior powers of discrimination? The English, Scotch, and Irish physicians have given evidence of talent and industry in the investigation of febrile pathology not surpassed, we think, by the medical men of any country. They have patiently examined the grounds upon which their continental brethren have drawn a line of distinction between typhus and typhoid fever; and, having done so, they deny that there is any foundation in nature for it. Dr. Davidson, who, it is believed, expresses the general opinion of British physicians, says: "Would it not, therefore, be refining our classification beyond all precedent, to separate typhus and typhoid fever with two species, where it has been shown that the symptoms in both are the same, or very nearly so, that they have nearly the same laws, as far as these have been ascertained; that the severity of the symptoms in both is not in proportion to the lesions of the intestinal follicles; and that the other complications of both are similar, although *various in the same place at different periods*, while the only characteristic in dispute has been acknowledged not a constant, and therefore, not a necessary element for the existence of the disease."*

Such, then, being the opinions of physicians practising in the British Islands, it becomes a question of curious interest, if nothing more, to learn what impressions have been produced on the minds of those who, conversant with the typhoid fever of Paris and other continental cities, have personally compared this disease with the British typhus. Dr. Lombard, of Geneva, so often quoted on this subject, during his visit to England, Scotland, and Ireland in 1836, examined several cases of typhus, two in Dublin, and one in Glasgow, and finding the symptoms similar to those of the typhoid fever of the Continent, with which he was familiar, expected to find after death the usual dothinerteric lesions; but, on examination, to his great astonishment, no such lesions were found. He says, "in the whole course of my experience I have met with nothing which has surprised me more than this occurrence; I had been for years engaged in the study of typhus fever, and for years my almost daily experience in the dead-room led me to associate certain lesions of the alimentary canal with the symptoms of this disease, when suddenly I find myself assailed by a new experience exactly contradictory of my former; nor was my new experience unconfirmed by that of the Glasgow or Dublin physicians." With such facts before him, to the question, "whether the two diseases are different or the same?" he answers: "I cannot allow that they are specifically distinct, and consequently I am almost forced to give up the opinion that the local changes of structure are of paramount importance in causing or producing the symptoms that accompany this type of fever."† Though Dr. Lombard subsequently resumed the opinion that the two diseases are different, it appears to us he did so without sufficient reasons.‡

In the following year, 1837, Dr. Staberóh, of Berlin, made a visit to Great Brit-

* Thackeray Prize Essay, p. 80. Appendix, British and Foreign Review, No. 22.

† Dublin Journal of Med. Science, vol. x. pp. 19, 22, 23.

‡ Ibid., p. 101.

ain and Ireland, and for six months devoted himself to the study of the fevers of those countries. His intimate acquaintance with the typhoid fever of Paris especially qualified him to compare the diseases in question; and, after doing so, he concluded, that though in many cases the British typhus wanted the follicular lesion of the bowels, the disease was the same as the typhoid affection of the continent.*

To the above authorities in favour of the identity of the two forms of disease, we must not omit to add that of M. de Claubry, whose able and elaborate investigations of the subject were published in Paris in 1844. His assemblage of facts, and the inferences he draws from them, seem scarcely to admit of being rationally controverted.

It thus appears that there are many of the more eminent pathologists of Great Britain, Ireland, and other European countries who concur in the opinion that no essential difference exists between typhus and typhoid fever. Their observations, however, establish the fact, that dothineritis frequently modifies the character of typhus; and that this complication is more common in some seasons and some countries than in others—a circumstance referable to causes which, though obscure, are clearly adventitious.

The necroscopic researches in this country have afforded no satisfactory evidence of there being a specific difference between the forms of malady under consideration. On the contrary, the facts already spread before the public, as well as those daily accumulating in our hospital registers, when carefully analyzed and compared with the phenomena of the typhus and typhoid epidemics of other countries, show that these diseases are one and the same. Cases presenting the same general features, the same nervous, vascular, eruptive, and other phenomena, and springing from the same efficient cause, are found to differ merely in their complications. one case exhibiting after death various anatomical changes, particularly alterations of the glands of Peyer and Brunner, and others showing no such alterations.

The strongest testimony, as it appears to us, yet adduced on this side of the Atlantic in favour of the opinion of the non-identity of typhus and typhoid fever, is that furnished by Dr. Gerhard of Philadelphia. This gentleman has described, in the *American Journal of the Medical Sciences* for 1837, two epidemics, occurring in that city in different years, one of which he designated typhus, and the other typhoid fever. In speaking of the former (typhus), he says, "In this large number of autopsies, amounting to about fifty, there was but in one case, and that doubtful in its diagnosis, the slightest deviation from the natural appearance of the glands of Peyer." In the epidemic which he denominated typhoid fever, it appears that Peyer's glands were generally affected, and hence he inferred that, notwithstanding the similarity of the general symptoms to those of typhus, the malady was not typhus. Now, if what has been said of the variety of complications which the same epidemic disease assumes in different years, be true, is it not fair to conclude that the differences in the morbid anatomy of the two epidemics described by Dr. Gerhard, were due to incidental causes; and that the two epidemics were the same disease modified in different seasons, as in the instances mentioned by Dr. Kennedy, and adverted to by Drs. Stokes and Davidson?

The post-mortem examinations made at the New York Hospitals, during the last year, might be deemed sufficient, apart from all other testimony, to establish the identity of typhus and typhoid fever. In the cases of ship fever, a pure form of typhus, a disease unquestionably originating in every instance from the same poison, follicular disease of the intestines was found after death in some cases, and not in others. Dr. Stone tells us, in the *New York Annalist*,† that, in four weeks, ending May 12th, 1847, there were admitted into the Bellevue Hospital about four hundred and sixty-six cases, sick of typhus; and he says that "the most constant anatomical lesion which I have found in the examination of about twenty-five of those who have died, is an enlargement and softening of the spleen. Peyer's glands were found more or less diseased in about one-fourth of these cases,

* Dublin Journal of Medical Science, vol. xiii. p. 426.

† Vol. i. p. 383, No. for May 15, 1847.

and the heart more or less softened in a somewhat larger proportion." The same gentleman, in another communication, published in the *New York Journal of Medicine*,* relating to the same fever, gives the following among his other conclusions, drawn from observations of the disease in New York and New England: "That typhus and typhoid fever, so called, are identical." Professor Clark, in illustrating the morbid anatomy of typhus, at a meeting of the New York Pathological Society, Feb. 23, 1848, stated, in reference to a particular hospital case, that "the usual old typhoid lesion affected the intestines with the common appearance of the present epidemic." "This case," he said, "allies the present epidemic with the typhoid fever."† At a meeting of the same society, held March 8, 1848, Dr. Swett made the following interesting statement. He said, "that fever had occurred at the Bloomingdale Lunatic Asylum, carried thither by an insane emigrant, and fifteen persons had been attacked with it. Nine or ten had come to the hospital, and two had been examined post-mortem. In the first there were no lesions of any kind: in the second, there were ulcerations of the small intestines." "Where the ulcers existed, instead of attacking Peyer's glands in the middle, they attacked the edges, extending two or three feet up the intestines, and then disappearing. Some had cicatrized, and some were cicatrizing. Both cases originated from ship fever in a very cleanly and healthy set of men; so that it seems as if the same poison might communicate to one ulceration, and to the other none." Dr. Swett ingeniously added, "that his belief in the non-identity of the diseases lessened daily, and he could not discriminate between cases presenting intestinal lesions (typhoid), and those which did not (typhus)."‡ Dr. Griscom, one of the physicians of the New York Hospital, states, that of ten autopsies of patients dying of ship fever in that Institution, in July, August, and September, 1847, six presented follicular disease of the intestines. Peyer's plates were prominent in four, and ulcerated in two. Facts of this kind are so frequently observed in the New York Hospitals that they have, in a measure, ceased to attract the attention of many physicians once deeply interested in their investigation, in reference to the question of the identity of typhus and typhoid fever.

To the same conclusion tend the inquiries, relating to this subject, in other quarters of our country. A writer in the *American Journal of the Medical Sciences*, § in speaking, it is presumed, of the ship fever in Philadelphia, says: "We have lately seen a great number of cases of fever in recently arrived Irish emigrants—the majority of the cases were of well-marked typhus fever; a few were of equally well-marked typhoid fever; while, in a third class of cases, the characteristics of these two fevers were so completely blended that it was very difficult to determine which of the two predominated." And he adds, "here, then, we have persons who have been exposed to precisely the same morbid causes, attacked with fever of a similar type, bearing the characters in some of the typhoid fever, in others of the typhus, and in others again a union, as it were, of the characteristics of both. This fact would seem to prove that the typhoid is a mere form or variety of the typhus fever." He also remarks, that "in the present state of our knowledge on this subject, it is, we conceive, much safer to consider the typhoid as one of the forms of typhus fever."

In view of the facts which have been stated, it seems to the committee that no reasonable doubt can remain that typhus and typhoid fever are identical. Were medical men united in this conclusion, might we not hope, that with undivided attention, and a union of effort, more rapid advances would be made in determining the causes of the morbid condition of the Peyerian glands and other organs which occur in some cases of typhus and not in others? On this subject, we would, in conclusion, remark, that it appears to us, that the deposit of typhus matter, so called, occurs not only in the intestinal follicles and mesenteric glands, but also in and beneath the mucous membranes, in the lungs, spleen, and probably in the kidneys; that in some cases this form of epigenesis shows itself mostly, if not exclusively, in the intestines, in others in a different part, and in others again in various tissues; that in some instances it is not discoverable in any organ; that

* Vol. x. p. 176, No. for March, 1848.

† Annalist, vol. ii. p. 249.

‡ Ibid., vol. ii. p. 265, No. for April 15, 1848.

§ No. xxix. p. 202, January, 1848.

in the typhus of some seasons and countries it is generally present in the intestines, and in others, absent in many or a large majority of cases.—*Trans. of Am. Med. Association*, vol. i.

Compression in the treatment of Aneurism.—The Committee of Surgery of the American Medical Association, in their highly interesting report made in May last, stated that they were cognizant of but five cases of aneurism in the lower extremities in which the treatment by pressure had been employed in this country. These cases were treated by Drs. Buck, Rodgers and Watson of New York, Knight of New Haven, and Mütter of Philadelphia.

"The first case was one of femoral aneurism, in which pressure was fairly tried and did not succeed, and it became necessary at last to resort to the operation by ligature.

"The instance which occurred to Dr. Rodgers was that of a negro seaman, aged 47, who, two months before, observed a swelling in the popliteal region, which arose after a fall. The tumour was of the size of a duck's egg, and the symptoms of aneurism were well marked. He entered the New York Hospital, and on the 15th of January, 1847, pressure was made upon the artery near the groin by means of an arterial compressor. This was continued till the 12th of February, but it being found impossible to effect the desired object with it, Dr. Rodgers substituted another, consisting essentially of a metallic plate placed upon the inner side of the thigh over the vessel, having three holes at short intervals through which screws passed, each having at one of their extremities a firm pad, and at the other a projection to which a key was adapted, by means of which pressure could be made upon the femoral artery at the different points. This metallic plate was secured over the artery by means of broad straps attached to a sliding plate of steel, secured in a metallic bar, applied longitudinally to the back of the limb.

"Soon after the adjustment of this instrument, it was ascertained that the patient loosened the screw in the absence of his attendant. He was now watched night and day for three days, by the end of which time all pulsation in the tumour was entirely arrested. The swelling gradually subsided to half its original size. The only inconvenience experienced by the patient was a numbness of the limb, upon the first removal of the instrument, but this soon left him, and he was discharged cured on the 13th of April.

"The case of Dr. Watson was one of femoral aneurism, treated also at the New York Hospital. The subject of it was an intemperate Irish woman, aged 38. The tumour, which was hard and painful to the touch, had existed for a month, and extended from the upper and inner third of the thigh to within a finger's breadth of the internal condyle of the femur, and at the point of its greatest circumference, reached from the inner border of the rectus muscle to the middle of the outer side of the thigh.

"At midday, on the 23d of September, 1847, pressure was made by means of two pads secured to circular straps over the artery, with counter-compresses on the outer side of the thigh, the pressure produced being regulated by a screw which acted directly upon the pads over the vessel. The first compress was fastened over the artery just as it emerges from beneath Poupart's ligament, the second, a short distance below it, and both were so arranged as partially to control the circulation in the tumour, the pressure being regulated by alternately tightening one compress and slackening the other, in order to prevent abrasion of the integument. On the 24th the patient was restless; on the 25th she complained greatly of cramp and pain in the leg, which was much swollen, to relieve which a roller was applied and the limb elevated on a pillow.

"By the 26th all pulsation had left the tumour. The upper compress was now removed—sixty-eight hours having elapsed from its first application, and very slight pressure was kept up by means of the lower one. No return of pulsation followed the removal of the compress, and in an hour afterwards the lower pad was also taken away. The skin beneath the upper compress had become somewhat abraded by the pressure, which required the application of a poultice, and subsequently simple dressings for a few days.

"On the 28th no pulsation could be detected in the tumour, or in the femoral artery below the point, upon which the upper pad had rested.

"By the 28th of October the tumour had much diminished in size, and become softer.

"On the 12th of November, nearly two months subsequent to the commencement of the treatment, she left the hospital well, the tumour still gradually becoming smaller. There was no pulsation to be detected in the anterior or posterior tibial arteries, or at any point below the giving off of the profunda, and the femoral artery itself below that point was felt like a solid cord beneath the integument.

"The case furnished by Dr. MUTTER, was that of a book-keeper, aged 41, whose general health was feeble, and who, six weeks previous to the 24th of September, 1847, had been seized with stiffness in the right ham, which was soon followed by a pulsating tumour of the size of a turkey's egg. After a few days' rest in the horizontal position, his treatment was commenced by applying a roller to the limb in order to prevent swelling, and the application of one of Charrière's compressors, with a small oval pad over the femoral vessel where it passes down to become popliteal, and another similar compressor with a larger pad over the artery at the upper third of the thigh. The limb was then placed upon an inclined plane. After remaining in this position for twelve hours, the lower compressor was tightened until all pulsation ceased in the tumour. The pain produced by this procedure was severe, and could only be borne at first for half an hour. When it became insupportable, the upper compressor was screwed down, and the pressure from the lower one removed. The patient supported the pressure above for two hours without much difficulty; it then became annoying, and in order to relieve the suffering, the lower compressor was again tightened.

"By thus alternating the points to which it was applied, the necessary amount of pressure was kept up without excoriation, or any other injurious consequence resulting, and from the peculiar construction of the instruments, and the previous application of the roller, the swelling of the limb was trifling. During the treatment, the diet of the patient was restricted, and digitalis was administered to him.

"By the 12th day the tumour was reduced to about half its original size; had become solid, and was free from pulsation. Notwithstanding these circumstances, Dr. Mutter did not consider it safe to allow his patient to move about, or even to relax the treatment, but continued to pursue the same course, with slight modifications, for six weeks longer. At the expiration of this period, the tumour had nearly disappeared, the collateral circulation was fully established, and the disease radically cured."

Dr. Knight's case we have given in full in our preceding No. p. 255.

To these cases a sixth is now to be added successfully treated by Dr. A. E. HOSACK of New York, and the details of which we take from the *N. Y. Journ. Med.* for July last:

The subject of the case was a coloured man aged between fifty and sixty, in whom Dr. H. tied the femoral artery at the lower part of the upper third of the thigh for popliteal aneurism, about the size of a small goose-egg. Upon securing the artery in the ligature, all pulsation in the tumour ceased; the wound being dressed in the ordinary way, healed kindly in the usual time, casting off the ligature on the 26th day; after which the swelling continuing gradually to decline, left the patient to all appearance perfectly well, with the exception of a slight halt in his gait, which entirely disappeared after a few weeks. About the middle of the following August he returned to Dr. H. with the tumour of nearly the size it was at the time of the operation, but it had not the same elasticity, and was more solid to the feel. Pulsation was distinctly to be perceived in the tumour, and could be detected in the femoral artery quite up to the point at which the ligature had been applied, as well as in the tibial branches, but with diminished force. Under these circumstances, Dr. H. determined to make trial of compression. Preparatory to the application of the instrument the patient was directed to remain quietly in bed for three or four days, which being complied with, the instrument was adjusted, and pressure exerted upon the femoral artery, so as to arrest completely all pulsation in the tumour: after an hour or more, it became necessary, in consequence of pain produced by pressure, to shift the pad an inch or more from the point just compressed, and so changed from time to time, as circumstances required; but having one plate or pad instead of three, (the other two

being an addition of Dr. Rodgers, which certainly is an improvement,) Dr. H. was compelled to make compression upon the artery as it passes over the pubis; while changing the position of the pad. The instrument was thus continued until after the fifth day, when finding no pulsation in the tumour, it was removed. After the lapse of a fortnight or more, a slight thrill was to be detected in the aneurismal sac, when the instrument was re-applied for thirty-six hours longer, varying the pressure on the artery as circumstances required. Pulsation or thrill being no longer discoverable in the tumour, which had now become more solid, compression was taken off; since which time the patient has been able to take exercise, and attend to his usual occupation, being perfectly restored to health.

The instrument employed by Dr. H., which is similar in principle to one described by Mr. Blizard, (*London Med. and Phys. Journ.*, vol. iii.,) consists of a quadrangular rod of iron, passing up on the outside of the thigh to its full length, of sufficient strength to sustain the force required. At its upper extremity it is connected with a broad concave pad by a neck of iron, about an inch long, coming off at right angles with it. The pad is to rest upon the trochanter major, and is to be retained in its place by a strap passing round the pelvis. The lower extremity of the rod has a similar neck of iron, but which is two inches long and slides upon the rod, so as to accommodate the instrument to the various lengths of limbs; the pad connected with it is also broad and concave, that it may the better repose upon the outer condyle of the femur, and is retained in its place by a strap passing round the knee. Two plates of iron, six or seven inches broad and eight inches long, connected together, are threaded in the centre by the rod so as to slide up and down; to the upper and lower edge and on the outer side, knobs are attached for the fastening of straps to be connected with three plates of iron of sufficient thickness, about two inches and a half broad and six inches long. These plates have knobs at the upper and lower extremity on the outside, for straps to be attached connecting them with the outer plate. These three plates are pierced in the centre for a screw, which is to have connected with it a pad similar to the common tourniquet pad, only larger. The straps connecting the plates can be shortened or lengthened at pleasure, so as to bring the pad of each to bear directly upon the femoral artery in its winding around the bone.

"By this arrangement," says Dr. H., "it will be perceived that I have successfully avoided compressing the collateral branches of arteries by making the *point d'appui* between the trochanter major and the outer condyle of the femur, while the resistance offered is alone from the inner side of the thigh bone, with the femoral artery intervening."

Ovarium successfully Extirpated. By H. MILLER, M. D., of Louisville, Kentucky. (*West. Journ. Med. and Surg.*, July 1848.) The subject of this case was 37 years of age, and she had first observed the tumour a few months previously, since when it had rapidly increased in size. On examination, Dr. Miller discovered a large tumour in the abdominal cavity, extending considerably above the umbilicus, and mostly occupying the right side, but stretching across the linea alba. Its shape was irregularly globular, and its consistency variable, being, at some points, much firmer than at others,—and in portions of it, fluctuation could be distinguished. Pressure upon it, even rude handling, gave no pain, and it appeared to be, in some degree, movable in the cavity.

Examined *per vaginam*, the tumour could be felt within the pelvis, and the uterus was found in its normal condition.

Doctor M. explained to the patient the nature of the case, and the risks of an operation, but she boldly determined to risk the latter to get rid of her burden. She consented, however, to delay until the following spring, when she again applied for relief. In consultation with Prof. Gross, Dr. T. L. Caldwell and Bayless, the operation was deemed advisable, and accordingly it was performed on the 6th of April, 1848, with the assistance of Prof. Gross, Dr. Bayless, Colescott, W. B. Caldwell, and T. G. Richardson. The patient being placed upon the table, on her back, her feet resting upon a chair, and the chloroform having been administered, an incision was made through the integuments, over the linea alba, from the umbilicus to the pubes. The fasciæ and peritoneum were then divided, by several strokes of the scalpel, at the upper part of the incision, and a finger introduced to

guide the probe-pointed bistoury, with which an incision was made through these tissues corresponding to that of the integuments. The tumour was now brought to view, and found adherent, though not very firmly, to the omentum and parietes of the abdomen. To break up these adhesions, Dr. M. passed his hand into the abdominal cavity and around the tumour, and had no difficulty in accomplishing the object. It was soon ascertained that the tumour was too large to be pushed through the opening that had been made, but rather than extend this, he punctured two of the cysts, and discharged a quantity of fluid, resembling that which had been drawn off by tapping, a week previously,—the quantity could not be estimated, as it was suffered to run upon the table, whence it flowed across the room. By getting his hand posterior to it, Dr. M. now drew the tumour through the incision, and supported it while Professor Gross secured its pedicle, by a strong ligature, passed through the broad ligament, and tied round the Fallopian tube and ligament of the ovary, and then severed its connections by cutting across the broad ligament near the inferior part of the diseased ovary. The vessels of the outer extremity of the broad ligament bleeding considerably, these were secured by another ligature which included the whole of its margin.

The tumour being removed, the ovarian fluid which had been effused, in considerable quantity, into the abdominal cavity, and likewise the blood, were carefully sponged out, and the incision was closed, as usual, by the interrupted suture, adhesive strips, compresses, and bandage, the ligatures having been brought out at the inferior part of the incision. The operation was commenced at 1 o'clock, P.M., and the patient was put to bed in less than an hour, having borne it remarkably well; in fact, she felt, as she declared, very little pain, being under the influence of the chloroform.

Nothing very remarkable occurred during the convalescence; the sutures were cut out on the 13th day; on the 19th one of the ligatures yielded to gentle traction; "but the other, although gently pulled at every dressing, did not yield until the 7th of May (the 31st day), at which time the wound was firmly closed, except the small opening through which the ligatures were brought out.

The tumour, notwithstanding the tapping and the puncture of two of its cysts, at the time of the operation, weighed nine and a quarter pounds. It is composed of many cysts, of various sizes, having strong, thick walls, with smooth, polished linings, and filled, as many of them as were opened for inspection, with the same ropy, white fluid, as that discharged by the trocar.

Case of Pseudo-Membranous Laryngitis, in which the operation of Tracheotomy, performed at an advanced stage of the disease, was followed by complete recovery. By C. D. MEIGS, M. D.—A child four years of age becoming affected with difficult and noisy respiration, was placed under the care of a homœopathic practitioner; the parents having lost already a child from croup, recognized in this the same symptoms as were observed in the former case, and suggested to the medical attendant, that the child was labouring under that disease, but this he declared was not the case, but rather thought that the attack would turn out to be one of measles. The child, however, grew worse and worse—no eruption appeared upon the skin, and at the end of two weeks, the respiration having become increased in difficulty and attended with a distinct croupy sound, while the voice of the child was nearly extinct, the parents became alarmed and sent for Dr. Meigs. His son, Dr. J. F. Meigs, immediately saw the patient, and found it in an advanced stage of genuine membranous croup, attended with symptoms of the most violent character; an extensive deposition of membranous matter appeared to have taken place, and the case was looked upon as almost hopeless—with the view, however, of affording, if possible, some relief to the extreme difficulty of breathing, the doctor directed the application of five or six leeches to the throat on each side of the trachea. Dr. C. D. Meigs now saw the child, and considered it to be in the most imminent danger. The croupal symptoms were intense. Upon auscultation, not the slightest respiratory murmur could be detected in any part of the chest, giving the idea of an individual labouring under complete hepatization of both lungs. The air passed into the lungs with the greatest difficulty, the respiratory effort being prolonged to an extent beyond what the doctor recollects to have ever before witnessed. The child was extremely restless, its head was thrown back upon the spine, and every moment strangulation seemed imminent. A half ounce of

powdered alum was directed, and one drachm of it given to the child at intervals of twenty minutes, until emesis was produced, which did not occur until after the fourth dose. This was rather an uncommon occurrence, vomiting being generally produced by a single dose of the alum; it evidently indicated a torpid state of the nervous mass, the result of the great change produced in the blood, in consequence of the imperfect performance of the respiratory function. No nausea or prostration followed the action of the emetic.

Early the next morning found the child labouring under the most distressing difficulty of respiration; the surface, and particularly, the face, lips, and tongue, were of a blue colour, and nearly all the symptoms of a state of asphyxia were present. Dr. M. considered that death was inevitable, but still, the operation of tracheotomy, though a forlorn hope, presented itself as the only possible means of relief. This was stated to the parents, who consented that it should be tried; accordingly, at eleven o'clock, the operation was performed by Dr. Pancoast. After laying bare the trachea, he divided the second, third, and fourth cartilaginous rings; immediately upon opening the trachea, a discharge took place of mucus, mixed with blood and portions of plastic lymph. In forty seconds, the child breathed with great freedom. Instead of inserting a tube in the usual manner, through the opening into the trachea, Dr. Pancoast secured the open state of this, by cutting from the trachea an elliptical portion of cartilage, thus leaving an oval opening into the tube somewhat larger than that of the two nostrils; while the edges of the incision through the soft parts were kept asunder by a leaden wire, which passing around the neck had the hooked ends of its two free extremities inserted on each side of the wound. The next day the child was up and running about. In a few days, the edges of the incision in the neck were brought together, the wound rapidly healed, and the child, within a surprisingly short period, recovered perfectly without a single disagreeable symptom occurring.—*Summary of Trans. of Philad. Coll. of Phys.*, vol. ii. No. 5.

Case of Membranous Croup of a severe character, and attended with all the symptoms of approaching death, which recovered without an operation for Tracheotomy. By ISAAC PARRISH, M. D.—The patient was a child of eighteen months old, which was attacked with what was supposed to be an ordinary catarrh, attended with a harsh dry cough. Simple domestic remedies had been administered for several days without effect, before the doctor was sent for.

When the patient was seen by him, the cough was "croupy," and the breathing obstructed to an alarming extent. On looking into the fauces, the whole back part of the throat was found lined with a thick, tenacious secretion. An emetic of two grs. of turpeth mineral was immediately administered, which operated promptly, but without relief. Calomel, grs. v. was administered, to be followed by castor oil in a few hours. After the operation of the purgative, there was still no decided relief: the turpeth mineral emetic was continued regularly every four hours, and the calomel in small doses every two hours, for several days; but the disease steadily progressed; no discharge of membrane having been induced: the breathing became more distressing, and finally, the child was unable to cry; the cough was dry and less developed, and the bronchial tubes appeared to be rapidly filling up. At this stage of the complaint, injections of assafoetida and laudanum were given every four hours, solely with a view of assuaging the sufferings of the child, and all other medicines were suspended. The full effect of the opium was induced, and the jactitation and restlessness diminished, though the breathing continued as bad as ever. The child lay upon the pillow with the head thrown back, and was several times supposed to be dying, from the violence of the paroxysms of dyspnoea. The doctor left late in the evening, with directions to continue the anodyne, expecting to find his patient dead in the morning. On the morning visit, he was surprised to find that the paroxysms of extreme difficulty of breathing had been less frequent, and that the child had slept with comparative comfort, though the respiration was still exceedingly laborious. It was found that a discharge of thick yellow mucus had begun to issue from the nostrils during the night, and on examining the throat, it was evident that the membrane lining the fauces was loosening. The bowels had also been freely moved with copious yellow dejections.

This state of things afforded encouragement to resume the use of turpeth mine-

ral, which acted promptly, bringing away large quantities of thick, yellow mucus, to the great relief of the infant, who, from this time, went on improving, and recovered rapidly.—*Ibid.*

Case of Parturition occurring in a Female labouring under Stricture of the Vagina. By C. D. MEIGS, M. D.—On the 11th of April, 1845, the patient was delivered of her second child, and soon after was seized with fever, attended with some peculiar symptoms, which were found to result from a retroversion of the uterus, that had occurred before the uterus had become entirely reduced to its normal size and condition after parturition. During the remainder of 1845, and the whole of the ensuing year, the patient remained in tolerable health; early in 1847, she began to complain of pelvic pain, attended with some discharge from the vagina. She at first declined submitting to an examination to enable Dr. M. to ascertain the condition of the uterus and vagina. Her symptoms, however, increasing, she permitted finally the examination to be made: the neck of the uterus was found to be in a condition which induced Dr. M. to suppose, at first, that it was carcinomatous, but on resorting to the speculum, he ascertained that the neck of the uterus was the seat of an extensive ulceration, which did not appear to be of a malignant character. The superficies of the ulcer were equal to that of the fingers of one hand; there was considerable thickening of the parts affected, and portions of the surface were removable in the form of scales. It was treated by the nitrate of silver, but without any benefit resulting; the acid solution of the nitrate of mercury was substituted, and under its use the ulcer healed rapidly, and the general health of the patient soon improved, and became pretty well re-established by the time the ulcer was entirely cicatrized. As the ulcer healed, however, a very considerable contraction of the upper portion of the vagina took place, by which its cavity was reduced in diameter to that of an ordinary silver pencil. By the first of January of the present year, the lady became pregnant, and about the 10th of July labour pains were experienced. In an examination, to determine the condition of the vagina and os uteri, it was with the greatest difficulty Dr. M. succeeded in introducing his index finger through the stricture. Opiates, rest, &c., were resorted to in order to keep off the labour. On the 20th of the month the patient had very severe pains; the membranes, which were uncommonly tough, were gradually protruded beyond the vagina. All the means calculated to produce a relaxation of the vagina were resorted to: sulphate of morphia was administered by the mouth; the patient was immersed in a warm bath; mucilaginous fluids were injected into the vagina; and the strictured portion freely anointed with an ointment containing extract of belladonna. The vagina was finally dilated by the advancing head, and on the morning of the 21st, the child was born without instrumental assistance.—*Ibid.*

Spontaneous Evolution of the Fetus. By N. W. COLE, M. D., of Burlington, N. J.—On the evening of the 10th of Oct., I received a message from my friend Dr. Haines, to visit with him a female in labour of her eleventh child, to whom he had been called in the afternoon, and to bring with me my instruments. The doctor informed me that upon his arrival he found one child born, and that another was presenting, with the shoulder and its right arm protruding. He stated also that he had made several unsuccessful attempts to turn. Upon examination I found everything as above stated. The labour pains had entirely ceased, from the time of the birth of the first child. Its waters evacuated, and the uterus was closely and rigidly contracted around its body, so much so that, after repeated efforts, I was obliged to abandon all idea of turning without using more force than would be justifiable.

While preparing the necessary instruments for taking the child away, (it was dead beyond all doubt—there being no pulsation from the time of my arrival,) the mother's pains returned; and Dr. Haines, who was sitting with her, observed the child to be lower down. I immediately made an examination, and found that some change was taking place. Its body seemed to descend, and I distinctly felt its shoulder ascend. In less than five minutes from the return of the pains, it had made a complete somerset. The feet and breech came down, and the head followed without any difficulty. It was healthy, and of the average size.—*New Jersey Med. Reporter*, Jan., 1848.

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Graduates of Jefferson Medical College of Philadelphia, March, 1848.
 —At a Public Commencement held on the 29th of March, 1848, the Degree of Doctor of Medicine was conferred on the following gentlemen by the REV. EZRA STILES ELY, D. D., President pro tempore in the absence of the REV. ASHBEL GREEN, D. D., LL. D., President of the Institution; after which a Charge to the Graduates was delivered by Professor PANCOAST.

NAME.	STATE.	SUBJECT OF THESIS.
Alexander, Gerard	Kentucky,	Syphilis.
Anderson, John B.	Virginia,	Hypertrophy of the Heart.
Arnold, Edmund S. F.	England,	Pneumothorax.
Ayer, Francis B.	New Hampshire.	Typhoid Fever.
Baer, Caleb D.	Maryland,	Hydrocele.
Bainbridge, Eusebius C.	Kentucky,	Prolapsus Uteri.
Banks, William	Alabama,	Cold Stage of Intermittent Fever.
Baxley, Jabez B.	South Carolina,	Typhus Fever.
Bennett, Trumbull L.	New York,	Phthisis Pulmonalis.
Benson, Wirt F.	Tennessee,	Physiology of Respiration.
Bibb, William E.	Virginia,	Opium.
Birch, David	Ireland,	Nutrient of Fœtus.
Birdsell, Sylvester	Pennsylvania,	Cardiac Dropsy.
Blain, Hamilton L.	Virginia,	Dysentery.
Bolling, Lenæus	Virginia,	Acute Gastritis.
Bolton, James N.	Georgia,	Typhoid Fever.
Bourn, Richard W.	Missouri,	Datura Stramonium.
Bourmonville, A., M.D.	Pennsylvania,	(Ad eundem.)
Bowen, James W.	Maryland,	Bilious Remittent Fever.
Brodnax, Robert	North Carolina,	Circulation of the Blood.
Brookbank, John W.	Iowa,	Intermittent Fever.
Brown, Henry James, M.D.	Pennsylvania,	Tetanus.
Brass, Andrew J.	Pennsylvania,	Eclampsia Infantum.
Brown, John T.	Pennsylvania,	Acute Dysentery.
Bruner, William H.	Pennsylvania,	Glands of Brunner.
Buck, Jonathan	Mississippi,	Fever.
Cable, Josiah C.	Ohio,	Physical Diagnosis.
Cahall, Thomas	Delaware,	Epidemic Erysipelas as it occurred at Dover, Del., in 1847.
Cameron, J. Walton	Virginia,	Pertussis.
Carr, William W.	Georgia,	Pneumonia.
Chambers, John M. Duncan,	Pennsylvania,	Typhoid Fever.
Chancellor, James E.	Virginia,	Digestion.
Churchman, Vincent T.	Virginia,	Differential Diagnosis of Typhus and Typhoid Fever.
Clark, George W.	Virginia,	Peritonitis.
Clements, L. Morgan	Alabama,	Acute Pleuritis.
Collet, Mark Wilkes	Pennsylvania,	Changes of the Blood in Disease.
Connalley, Reps	Virginia,	Acute Hydrocephalus.
Crouse, George Jackson	Pennsylvania,	Febris Remittens.
Davidson, Charles Edward	Virginia,	Puerperal Fever.
Davis, John, Jr.	Virginia,	Hematology.
Dennis, William H.	Virginia,	Cholera Infantum.
Deupree, William J.	Mississippi,	Congestive Fever.
Dice, Reuben B.	Virginia,	Acute Endo-gastritis.
Dixon, Lucius	Virginia,	Diseases of the Urinary Bladder.
Dodd, Robert J., Jr.	Pennsylvania,	Process of Digestion.
Doxey, John L.	Mississippi,	Gonorrhœa.
Drayton, Edward F.	Pennsylvania,	Curvatures of the Spine.
Fitzgerald, Edmund	Georgia,	Pathology of Inflammation.
Foard, Andrew Jackson	Georgia,	Rheumatism.
Folwell, Joseph N.	Kentucky,	Acute Dysentery.
Fort, Moses T.	Georgia,	Moral prophylaxis and treatment of diseases.
Frick, William S.	Pennsylvania,	Pharmaceutical Inconsistencies.
Gamble, George M.	Pennsylvania,	Conception.
Garnett, James H.	Virginia,	Differential Diagnosis of Typhus and Typhoid Fever.
Gauthreaux, Joseph Justin	Louisiana,	Typhus Fever.

NAME.	STATE.	SUBJECT OF THESIS.
Gilbert, Julius Cæsar	Georgia,	Yellow Fever.
Glass, Samuel	Ohio,	Pneumonia.
Green, James S.	North Carolina,	Constipation and its effects.
Gresham, Sterling A.	Georgia,	Cholera Infantum.
Guild, La Fayette	Alabama,	Healing of Wounds.
Gwyn, James D.	North Carolina,	Vis Medicatrix Naturæ.
Habersham, Stephen Elliott	South Carolina,	Inguinal Hernia.
Halley, Samuel H.	Virginia,	Scarlatina.
Hamilton, James	Pennsylvania,	Pathology of the Human Solids.
Harden, Robert Raymond	Georgia,	Acute Gastritis.
Harper, John P.	Missouri,	Acute Peritonitis.
Harris, Marcus A.	Virginia,	Diagnosis.
Hayes, Pliny H.	New York,	Physiological Anatomy of the Skin.
Henderson, William J.	Pennsylvania,	Hepatitis.
Herr, Henry F.	Pennsylvania,	Fecundation.
Hill, Alonzo A. F.	Georgia,	Hereditary Transmission.
Hillsman, William H.	Virginia,	Pneumonia.
Hobson, Samuel A.	Virginia,	Inguinal and Femoral Hernia.
Hore, Walter	Virginia,	Dysentery.
Hottenstein, Cyrus D.	Pennsylvania,	Amenorrhœa.
Houtz, Abraham	Ohio,	Typhoid Fever.
Howard, Nelson W.	New York,	Quackery.
Howell, George H.	Pennsylvania,	Pneumonia.
Humphreys, Benjamin W.	Tennessee,	Natural Indications.
Hunter, William R.	Maine,	Sulphuric Ether.
Isbell, Abner C.	Virginia,	Acute Articular Rheumatism.
Jackson, Samuel	Pennsylvania,	Opium.
Jenkins, Paul F.	South Carolina,	Gastritis.
Jenkins, Robert C.	Virginia,	Scarlatina.
Jessup, John J.	New Jersey,	The Tampon.
Jeter, John W.	Virginia,	Hysteria.
Jones, Daniel W.	Maryland,	Cutaneous System.
Jones, Robert Lewis	Mississippi,	Animal Calorification.
Jordan, Watson P.	Virginia,	Bilious Remittent Fever.
Kendrick, Oscar C.	Ohio,	Action of Ergot on the Vitality of the Blood.
Knapp, Franklin A.	New York,	Menstruation.
Koontz, George H. H.	Virginia,	Tic Douloureux.
Ladd, Horace	Pennsylvania,	Acute Pneumonia.
Leake, Virginius	Tennessee,	Vis Medicatrix Naturæ.
Leatherbury, Edward R.	Virginia,	Pneumonia.
Levis, Richard J.	Pennsylvania,	Influence of the Mind on Disease.
Lindsey, Hugh N.	Mississippi,	Chylosis.
Linn, William H.	New Jersey,	Intermittent Fever.
Long, John Wesley	North Carolina,	Menstruation.
Long, Reuben K.	Virginia,	Asphyxia.
Lothrop, James E.	New Hampshire,	Pneumonia.
Luther, Martin	Pennsylvania,	Acute Peritonitis.
M'Clure, Henry	Pennsylvania,	Intermittent Fever.
M'Ilvaine, Robert H.	North Carolina,	Qualifications of a Physician.
M'Nail, Thomas A.	Tennessee,	Acute Hepatitis.
Mackenzie, Thomas G.	Virginia,	Use of Sulphuric Ether.
Marsden, John H.	Pennsylvania,	Management of Lying-in Women.
Marshall, Theophilus O.	Virginia,	Cathartics and their Therapeutical Effects.
Mason, Edmunds	Alabama,	Typhoid, contrasted with Typhus Fever.
Merinar, William H.	Mississippi,	Yellow Fever.
Moore, William I.	New Jersey,	Iodine.
Moss, George W.	Missouri,	Remittent Fever of Northern Missouri.
Moultrie, Alonzo C.	Georgia,	Delirium Tremens.
Murphy, Cornelius T.	North Carolina,	Rubeola.
Murphy, John A.	Pennsylvania,	Peritonitis.
Nash, John W.	Virginia,	Asthma.
Neblett, Sterling, Jr.	Virginia,	Acute and Chronic Peritonitis.
Neff, Peter D.	Pennsylvania,	Asphyxia.
Nicholas, John Thomas	South Wales,	Lithuria.
O'Donnell, William	Pennsylvania,	Abortion.
Oldham, Robert H.	Tennessee,	Typhus Fever.
Osborne, Edward A.	New Jersey,	Typhoid Fever.
Owen, Edward	Pennsylvania,	Typhoid Fever.
Palmer, Charles	New Hampshire,	Apoplexy.

NAME.	STATE.	SUBJECT OF THESIS.
Parker, Edward H.	Massachusetts,	Diabetes Mellitus.
Patterson, Theophilus	New Jersey,	Dyspepsia.
Peters, Samuel Adams	Missouri,	Amenorrhœa.
Pettus, Luther C.	Virginia,	Chlorosis.
Phillips, Thomas A.	Mississippi,	Medical Empiricism.
Philbrick, Samuel R.	Massachusetts,	Principles of Diagnosis.
Preston, Alexander R., M.D.	Virginia,	(Ad eundem.)
Prince, William E.	Virginia,	Typhoid Fever.
Puryear, Richard R.	Virginia,	Carbonic Acid.
Ramsay, G. Randolph	Georgia,	Dyspepsia.
Ramsay, James Graham	North Carolina,	Congestive Fever.
Rand, B. Howard	Pennsylvania,	Animal Charcoal as an Antidote.
Reilly, Paul Jones	Missouri,	Duties of the Accoucheur.
Richardson, William L.	Pennsylvania,	Scarlet Fever.
Robb, John P.	Virginia,	Dysentery.
Robertson, Edwin J.	Virginia,	Therapeutical Agency of Sulphate of Quinia.
Robson, George T.	Virginia,	Remittent Fever.
Rogers, William Egbert	Tennessee,	Ammonia.
Rooke, Levi	Pennsylvania,	Phrenology.
Sample, John	Pennsylvania,	Acute Gastritis.
Scott, Samuel	Pennsylvania,	Pathology of Scarlatina.
Seltzer, John Horace	Pennsylvania,	Cynanche Trachealis.
Service, Lecky M.	Pennsylvania,	Adaptation of the Hand to the Arts and Sciences.
Smith, Elliott Iverson	Georgia,	Emansio Mensium.
Sutton, James L.	Pennsylvania,	Dropsy.
Sutton, Lewis	Pennsylvania,	Cynanche Trachealis.
Taylor, George T.	New Jersey,	Scarlatina.
Taylor, James M.	Pennsylvania,	Continued Fever.
Taylor, Leonidas C.	North Carolina,	Diagnosis of Pregnancy.
Terhune, Archibald A.	Georgia,	Moving Powers of the Blood.
Tharp, Jonathan	Delaware,	Pneumonia.
Tharp, William H.	Tennessee,	Intermittent Fever.
Thomas, John R.	Pennsylvania,	Pneumonia.
Thornton, Wm. P., M.D.	Mississippi,	(Ad eundem.)
Timberlake, Philip	Virginia,	Reproduction.
Tobias, John F.	Pennsylvania,	Acute Peritonitis.
Todd, Alexander H.	Maryland,	Typhus Fever.
Toombs, Robert E.	Georgia,	Gastritis.
Turner, James	Pennsylvania,	Acute Hepatitis.
Urquhart, Thomas H.	Virginia,	Acute Dysentery.
Vaughan, Thomas B.	Alabama,	Colica Pictorum.
Wallace, Robert B.	Alabama,	Endo-gastritis.
Walsh, William F.	Tennessee,	Erysipelas.
Walton, Lewis I.	Virginia,	Carbonic Acid Gas.
Welch, William A.	Alabama,	Peripneumony.
Whitaker, Benjamin F.	North Carolina,	Blood-letting.
White, G. Jefferson	Virginia,	Scarlatina.
Williams, Jr., William	Virginia,	Epidemic Fever that prevailed in Virginia, during the Autumn of 1845.
Wilson, Andrew J.	Virginia,	Tight Lacing.
Wilson, James A.	Pennsylvania,	Scarlatina.
Wimbish, James A.	Virginia,	Hydrogen.
Womble, Pembroke M.	Virginia,	Measles.
Wright, John	Pennsylvania,	Puerperal Fever.
Zimmerman, Reuben P.	Missouri,	Medicine.

Total, 178.

R. M. HUSTON, M. D., Dean.

UNIVERSITY OF PENNSYLVANIA, MEDICAL DEPARTMENT.

SESSION OF 1848-49.

The Medical Lectures will commence on Monday, the 16th day of October, and be delivered under the following arrangement.

Theory and Practice of Medicine,	- - -	By NATHANIEL CHAPMAN, M. D.
Anatomy, - - - - -	- - -	" WILLIAM E. HORNER, M. D.
Materia Medica and Pharmacy,	- - -	" GEORGE B. WOOD, M. D.
Chemistry, - - - - -	- - -	" JAMES B. ROGERS, M. D.
Surgery, - - - - -	- - -	" WILLIAM GIBSON, M. D.
Obstetrics and the Diseases of Women and Children,	- - -	" HUGH L. HODGE, M. D.
Institutes of Medicine, - - - - -	- - -	" SAMUEL JACKSON, M. D.

Clinical Instruction at the Pennsylvania Hospital, by GEORGE B. WOOD, M. D., on Medicine; and GEORGE W. NORRIS, M. D., on Surgery, twice a week.

Demonstrative Instruction in Medicine and Surgery, twice a week, by the Professors of the Medical Faculty, assisted by W. W. GERHARD, M. D., and HENRY H. SMITH, M. D.

Preliminary Lectures will be delivered daily from the 2d to the 14th of October, inclusive.

The rooms for Practical Anatomy will be open from October 1st, to the end of March ensuing. JOHN NEILL, M. D., Demonstrator.

Amount of Fees for Lectures in the University, \$105; Matriculating Fee (paid once only), \$5; Hospital Fee, \$10; Practical Anatomy, \$10; Graduating Fee, \$30.

The Commencement will take place early in April.

W. E. HORNER, M. D., *Dean of the Medical Faculty,*
No. 386 Chestnut Street, above Thirteenth, opposite the U. S. Mint.
Philadelphia, August 1st, 1848.

PENNSYLVANIA MEDICAL COLLEGE.

FILBERT STREET ABOVE ELEVENTH, PHILADELPHIA.

The Annual Course of Instruction for the Session of 1848-49, will commence on Monday, October 16th, and be continued until the ensuing 1st of March, under the following arrangement:—

Principles and Practice of Medicine,	- - -	By WM. DARRACH, M. D.
Obstetrics and Diseases of Women and Children,	- - -	" JOHN WILTBANK, M. D.
Materia Medica and Therapeutics,	- - -	" HENRY S. PATTERSON, M. D.
Anatomy and Physiology,	- - -	" WM. R. GRANT, M. D.
Principles and Practice of Surgery,	- - -	" DAVID GILBERT, M. D.
Medical Chemistry, - - - - -	- - -	" WASHINGTON L. ATLEE, M. D.

The Anatomical Rooms will be opened on the 1st of October, under the direction of Prof. GRANT, assisted by A. F. M'INTYRE, M. D., Demonstrator of Anatomy.

Pupils in attendance upon a Second Course of Lectures are provided with Tickets of admission to the Clinic of the Pennsylvania Hospital, Pine Street.

FEES.—Matriculation, \$5; for each Ticket, \$15; Graduation, \$30.

HENRY S. PATTERSON, M. D., *Registrar,*
No. 92 Arch Street.

SYDENHAM MEDICAL INSTITUTE,

FOR PRIVATE MEDICAL INSTRUCTION.

EXAMINATIONS, on Anatomy and Surgery, by A. C. POST, M. D., Surgeon to N. York Hospital, 4 Leroy place, (Bleecker street.)

" Theory and Practice of Medicine, by H. D. BULKLEY, M. D., Physician to N. York Hospital, 43 Bleecker street.

" Chemistry and Materia Medica, by B. W. MCCREADY, M. D., Prof. of Materia Medica and Pharmacy in N. York College of Pharmacy, 75 Spring street, near Crosby.

" Obstetrics and Diseases of Women and Children, by THOMAS F. COCK, M. D., Visiting Physician of the Lying-in Asylum, 54 Bond street.

Students received for the winter only, or for the entire year. Those who join the Association for a period not less than eight months, will be entitled to tickets of admission for the year to the New York Hospital.

NEW YORK, September 27, 1848.

JEFFERSON MEDICAL COLLEGE.

SESSION OF 1848-9.

The regular Course of Lectures will commence on Monday, the 16th of October, and continue until the first day of March.

ROBLEY DUNGLISON, M. D., Professor of Institutes of Medicine, &c.

ROBERT M. HUSTON, M. D., Professor of Materia Medica and General Therapeutics.

JOSEPH PANCOAST, M. D., Professor of General, Descriptive and Surgical Anatomy.

JOHN K. MITCHELL, M. D., Professor of Practice of Medicine.

THOMAS D. MUTTER, M. D., Professor of Institutes and Practice of Surgery.

CHARLES D. MEIGS, M. D., Professor of Obstetrics and Diseases of Women and Children.

FRANKLIN BACHE, M. D., Professor of Chemistry.

ELLERSLIE WALLACE, M. D., Demonstrator of Anatomy.

Every Wednesday and Saturday in the month of October, and during the Course, Medical and Surgical cases are investigated, prescribed for, and lectured on before the class. During the past year more than thirteen hundred cases were treated, and nearly two hundred surgical operations performed, in the presence of the class, including many of the major operations, as lithotomy, amputations, &c. The Lectures are so arranged as to permit the student to attend the Medical and Surgical practice and Lectures at the Pennsylvania Hospital. After the first of October, the Dissecting Rooms of the College will be open, under the direction of the Professor of Anatomy and the Demonstrator.

FEES.—Matriculation, which is paid only once, \$5; each Professor \$15, = \$105; Graduation, \$30.

The number of Students during the last Session was 480; and of graduates 178.

R. M. HUSTON, M. D., *Dean of the Faculty,*
No. 1 Girard Street.

July, 1818.

COLLEGE OF PHYSICIANS AND SURGEONS, OF THE UNIVERSITY OF THE STATE OF NEW YORK.

The Forty-second Session of the College will be commenced on Monday, 30th of October, 1848, and continued until the end of March, 1849.

ALEXANDER H. STEVENS, M. D., President of the College and Emeritus Professor of Clinical Surgery.

JOSEPH M. SMITH, M. D., Professor of the Theory and Practice of Medicine and Clinical Medicine.

JOHN B. BECK, M. D., Professor of Materia Medica and Medical Jurisprudence.

JOHN TORREY, M. D., LL. D., Professor of Botany and Chemistry.

ROBERT WATTS, jun., M. D., Professor of Anatomy.

WILLARD PARKER, M. D., Professor of the Principles and Practice of Surgery.

CHANDLER R. GILMAN, M. D., Professor of Obstetrics and the Diseases of Women and Children.

ALONZO CLARK, M. D., Professor of Physiology and Pathology (including Microscopy).

CHARLES E. ISAACS, M. D., Demonstrator of Anatomy.

FEES.—Matriculation Fee, \$5; Fees for the full Course of Lectures, \$108; Demonstrator's Ticket, \$5; Graduation Fee, \$25; Board, average \$3 per week.

Clinical Instruction is given at the New York Hospital daily, by the Medical Officers, (Professor Smith being one of them,) fee \$3 per annum; at the Eye Infirmary, without fee; and upwards of 1000 patients are annually exhibited to the class in the College Clinique. Obstetrical cases and subjects for Dissection are abundantly furnished through the respective departments.

The Annual Commencement is held at the close of the Session; there is also a Semi-annual Examination in September. The requisites for Graduation are,—21 years of age, three years of Study, including two full Courses of Lectures, the last of which must have been attended in this College, and the presentation of a Thesis on some subject connected with Medical Science.

In addition to the regular course, and not interfering with it, a Course of Lectures will be commenced on Monday, 2d October, and continued until the 30th October.

This Course will be free.

R. WATTS, JR., M. D., *Secretary to the Faculty.*
College of Physicians and Surgeons, 67 Crosby Street, New York.

MASSACHUSETTS MEDICAL COLLEGE.

The Medical Lectures of Harvard University will commence on the first Wednesday in November, at the Medical College in Grove Street, Boston, and continue four months.

Obstetrics and Medical Jurisprudence by WALTER CHANNING, M.D.

Materia Medica and Clinical Medicine by JACOB BIGELOW, M.D.

Surgery by GEORGE HAYWARD, M.D.

Chemistry by JOHN W. WEBSTER, M.D.

Theory and Practice of Medicine by JOHN WARE, M.D.

Pathological Anatomy by JOHN B. S. JACKSON, M.D.

Anatomy and Physiology by OLIVER W. HOLMES, M.D.

The fees for the whole course are collectively, \$80. Matriculation, \$3. Dissecting Ticket, \$5; Graduation, \$20. Admission to the Hospital and use of the Library are gratuitous.

The New Medical College in Grove Street is of ample dimensions, and contains, besides its Lecture Rooms, a very extensive museum of Healthy and Pathological Preparations, and a complete Chemical Laboratory.

The Massachusetts General Hospital is now one of the largest, best endowed and best arranged institutions in the United States. Four of the Professors in the University are also physicians or surgeons of the Hospital, so that regular clinical instruction is given, and all the surgical operations are open to the medical students during the lectures and throughout the year.

OLIVER W. HOLMES, *Dean*.

Boston, July 26, 1848.

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We strongly recommend Dr. Sargent's treatise to all our readers, believing that it will prove abundantly useful to those who consult its pages for information upon the important subjects therein discussed.—*The Ohio Medical and Surgical Journal*, for September, 1843.

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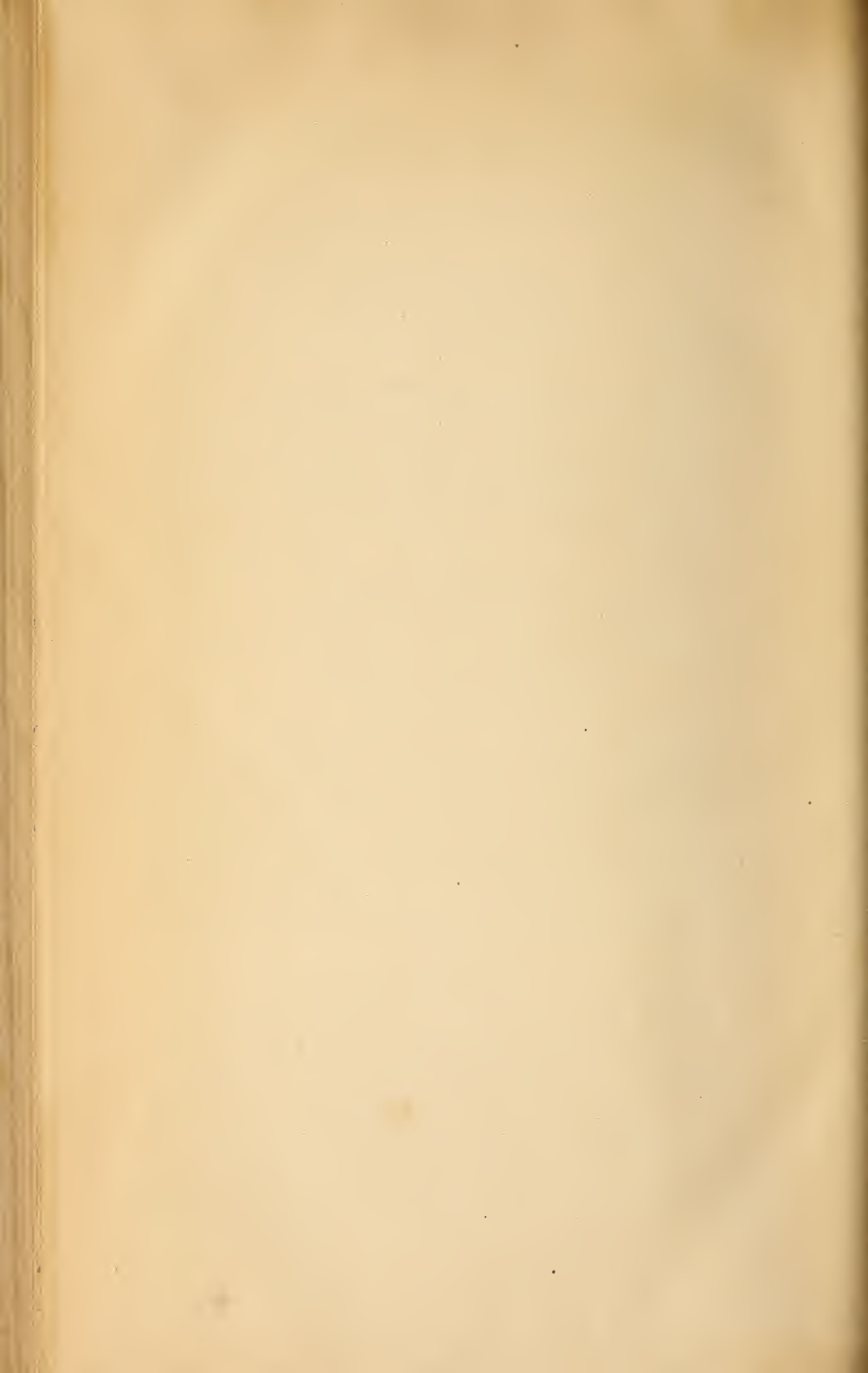
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